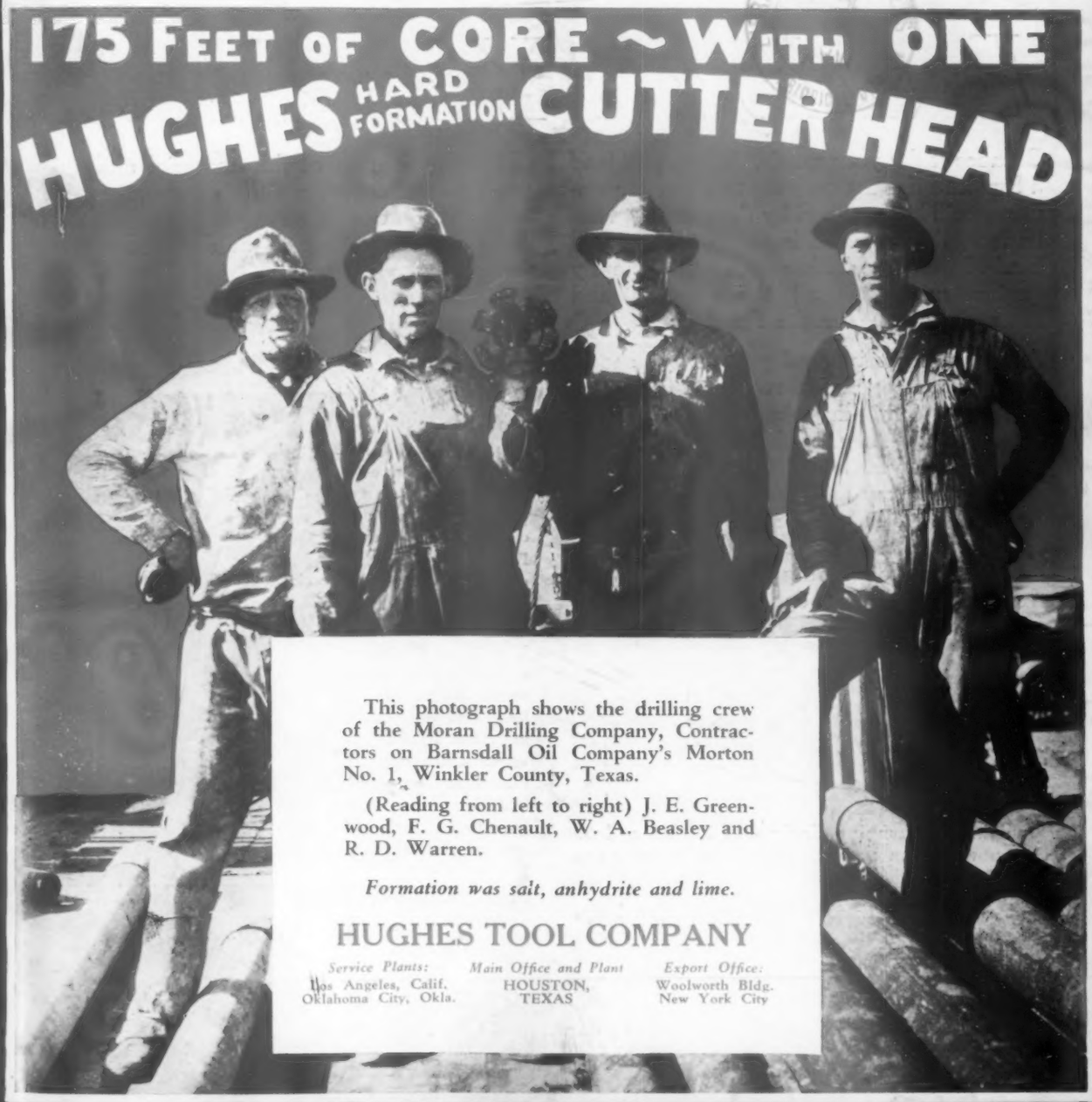
10¢ A COPY

# The OIL WEEKLY

*Exclusively Devoted To The Production and Transportation of Oil and Gas*

**March 8, 1929** **Volume 52. No. 12**

175 FEET OF CORE ~ WITH ONE HUGHES HARD FORMATION CUTTER HEAD



This photograph shows the drilling crew of the Moran Drilling Company, Contractors on Barnsdall Oil Company's Morton No. 1, Winkler County, Texas.

(Reading from left to right) J. E. Greenwood, F. G. Chenault, W. A. Beasley and R. D. Warren.

*Formation was salt, anhydrite and lime.*

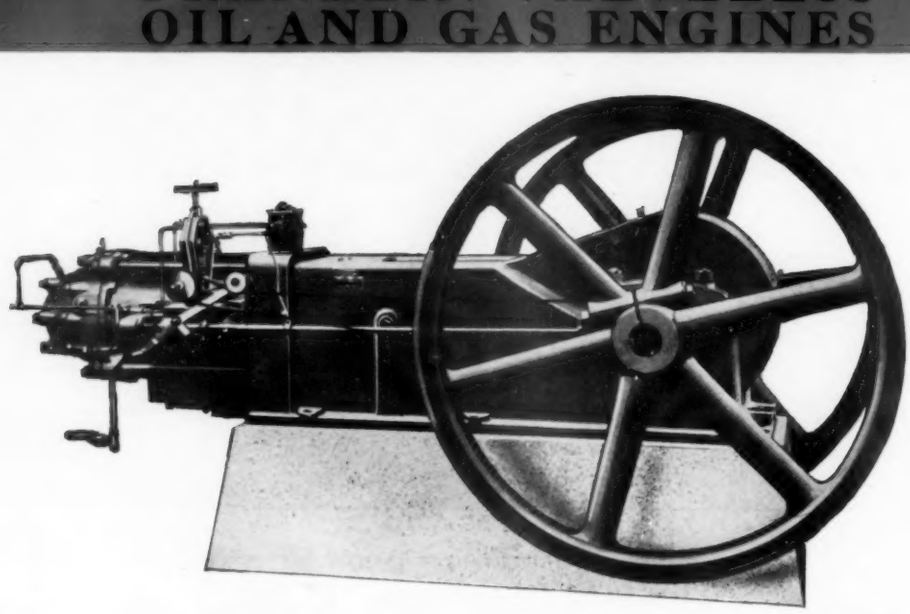
HUGHES TOOL COMPANY

*Service Plants:* Los Angeles, Calif. Oklahoma City, Okla.

*Main Office and Plant* HOUSTON, TEXAS

*Export Office:* Woolworth Bldg. New York City

# FRANKLIN VALVELESS OIL AND GAS ENGINES



*The new Franklin Oil Drilling Engine Type "OF". Ample power and simplicity. Easy to install and start. Low fuel cost.*

# *Franklin's Your Choice*

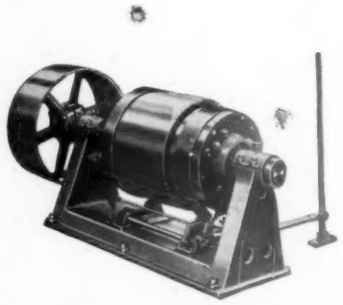
Because it fits your needs. When you load a Franklin Engine on your truck at the station you'll be surprised by the compactness. In fact, the Franklin is so compact you'll kind of wonder whether such a light, handy engine can show all the strength and stamina claimed for the Franklin.

After she's set up and you let 'er shoot, she displays so much power and flexibility you'll get to thinking she must be burning herself out. Then, with several years of work, when you look over your fuel bills and see how low they are; when, upon examination, you find the engine's in good condition, even after years of hard work—there is only one thing to conclude—and that is what we have concluded.

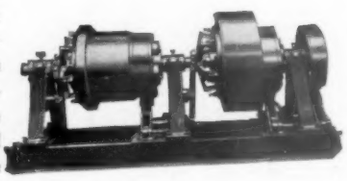
**Franklin Oil Pumping Engines in 30, 40 and 50 horsepower. Can be equipped with reverse or one way clutch.**

**And don't forget the Franklin construction keeps out sand and grit and eliminates valve grinding.**

The combination of fine material and expert designing reduce the power expense so much that installation with Franklin's is justifiable even though the machinery you have is not worn out.



**The BG Clutch is light and durable—Steel discs [illegible] the best grade of friction lining—Pulley clutch 100% Roller Bearings. In [illegible]ing the shaft is [illegible]sed. Spider, lever and brackets and all under-rigging of steel. Permits use of larger diameter pulley for lower clutch speed. The BG will pull the largest bailer without faltering.**



**The 2 SD Clutch is on the same principle as the BG. It is heavier. Has two speeds in forward and reverse. Gears may be shifted at any speed and from any one gear to another. Let us send you information on these clutches.**

**FRANKLIN VALVELESS ENGINE CO.**

**Franklin, Pa.**

*Distributed by*

# OIL WELL SUPPLY CO.

*Branches in All Oil Fields*

. . . . . *all combined in a pump you really should investigate!*

Here, men, is a pump built after your own hearts.

Designed to take punishment and ask for more. As husky a "baby" as has ever been made for this class of service and yet the smoothest, slickest in point of operation, you've ever seen or heard!

TIMKEN roller-bearings in drive and crank shaft. Positive, *automatic* lubrication. Center drive with herring-bone gears. Dust-proof crank case. Gas engine or electric motor operation. Ideal for any service within its limitation!

Every man who has to do with pump purchase, service or operation wants to keep abreast of pump developments. Here is a model that merits investigation. Ask us to give you full details.

GASO PUMP & BURNER MFG. COMPANY
*Tulsa, Oklahoma*
Texas Office—
210 Petroleum Bldg., Fort Worth, Texas

Illustration shows cover removed.

Gaso Enclosed Type *All Timken Bearing* Power Pump. Available in three types of fluid end—[1] Valve Pot Type, [2] 7-inch Suction Type, and [3] Interchangeable Liner Type [as shown in the illustration]. Capacity of the Interchangeable Liner fluid end varies from 63 barrels per hour at 800 pounds pressure, with 2½-inch liner, to 250 barrels per hour, at 250 pounds pressure, with 5-inch liner.

# GASO PUMPS
## for every oil industry need


*The OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 3301 Buffalo Drive, Houston, Texas. Subscription price $1.00 per year; 10 cents per copy. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1897.*

# ECONOMY

## A TRUE GAUGE TO THE WORTH OF ANY OIL FIELD PRODUCT OR SERVICE

In the final analysis, all oil field tools or services that succeed, or even survive, are those that do their specific job better and with less expense than any other.

In this respect the J. S. Abercrombie Inside Cutting Tool is rendering a valuable service to the Oil Industry. For six years it has been recovering lost wells, reaching deeper sands, salvaging casing, and otherwise economically aiding in maintaining profitable production.

The long list of leading companies and contractors for whom we have cut out hundreds of wells, attests the intrinsic worth of this Inside Cutting Tool.

The speed, reliability, and dependable performance of these tools, together with the services of skilled operators make them the most economical method of recovering wells.

ABERCROMBIE

## RED BALL SERVICE

LONG DISTANCE 200 — FAIRFAX 5317

**Twelve skilled operators,—all practical drillers with years of cutting experience are ready to start serving you at your command.**

**Abercrombie Tools are made in all sizes—specify inside diameter of casing when ordering our services.**

## J. S. ABERCROMBIE Co.

616-18 West Bldg. Houston, Texas

*Say you saw it in The OIL WEEKLY*

What industry needs more than anything else is more persons and organizations of *responsibility*—men and companies who, when given a job, can be depended upon to do it fully, faithfully and efficiently. When an oil man places a cementing order with Halliburton, he dismisses the matter from his mind—knowing full well that it will be carried out skilfully, thoroughly and well.

# HALLIBURTON
## OIL WELL CEMENTING COMPANY
***DUNCAN, OKLAHOMA***

*Say you saw it in The OIL WEEKLY*

ETNA

STANDARD

*Seamless*

CASING
TUBING
DRILL PIPE
*{Regular and Heat Treated}*
LINE PIPE
STILL TUBES
*Sizes 2 inch to 13⅜ inch O. D.*

*Welded*

CASING
STANDARD PIPE
LARGE O. D. PIPE
LINE PIPE
DRIVE PIPE
DRILL PIPE
*Sizes ⅛ inch to 24 inch O. D.*

Since
1828

**SPANG, CHALFANT & COMPANY, Inc.**
**PITTSBURGH, PA.**

*Sales Offices:* CHICAGO, ILL. NEW YORK, N. Y. ST. LOUIS, MO.
PITTSBURGH, PENNA. TULSA, OKLA. LOS ANGELES, CALIF.
*Mills:* ETNA, PENNA. SHARPSBURG, PENNA. AMBRIDGE, PENNA.

*Say you saw it in The OIL WEEKLY*

# *A Letter from Harry G. Nye*

The rugged construction and few working parts account for the simplicity and durability of these Nye Receding models. They do the work easily and efficiently.

No. 1 Nye Receding Pipe Threader, complete ....$9.60 net
West of Rocky Mountains $10.80

The No. 1A is the same as the No. 1, except that it is equipped with a ratchet for work where space is restricted.

No. 1A Nye Receding Pipe Threader, complete ....$12.00 net
West of Rocky Mountains $13.50

**NYE NO. 2**
(Toledo Type)
**Geared Threading Device Improved**

Capacity 2½ in. to 4 in. inclusive. This tool has the same rugged construction as the No. 1 and No. 1A Nye Receding stocks. A ratchet handle and a spider hub-threaded for 1-inch pipe is furnished as standard equipment.

Net price complete.....$50.00
West of Rocky Mountains... 55.00

**FREE TRIAL—ABSOLUTELY GUARANTEED**

**NYE (Toledo Type) Chasers Fit Nos. 1, 1A and 2 NYE (Toledo Type) Stocks**

Each set is guaranteed in every particular. Will cut much easier than other similar dies.

No. 1, 1″ to 1½″..$ .75 per set net
No. 1, 2″ .....$1.25 per set net
No. 2, 2½″ to 4″..$3.60 per set net

**TO THE OIL MEN OF THE U. S. A.**

Fellow Citizens:

Once there was a young man who wanted a chance to work up, and he got his wish right away. He hired out to a paper-hanger, who gave him a job hanging a ceiling. He hung so many ceilings that he got so he had to put his shoes on over his head. The most prominent feature of his face was his Adam's apple. From there his head sloped back like the roof of a woodshed. This gave him a very peculiar appearance, especially after a barber carelessly removed both his eyebrows while shaving the back of his neck.

And yet he led a rather happy life. Things with that young man were always looking up, because that was the only way he could look. Short skirts meant nothing to him. I speak about this young man, however, for a noble purpose. When you see a man going around with his chin where his forehead ought to be, and his forehead where his carbuncle ought to be, do not think he is proud. He may be a paper-hanger. He may have had to slap wallpaper on a ceiling with one hand, and caress it with the other, and make it stick on upside down. That is how he got that way.

So don't judge people by appearances. The man with a hunted look that you see gazing to right and left and front and back and dodging here and there may not be an escaped criminal. No such luck. He may be a pedestrian. The old man with the gray beard and the liver-spots and the shaky hands that you see sitting in front of the office building may not be a beggar. He may be a salesman who was told to wait, that the boss was in a conference.

And the man with the broken fingers, and the fallen arches, and the fractured wrists, and the crippled arms, and the busted leg, may not have been in a fight at all. He may be just an oil man who never heard of Nye Tools, or at least never bought any, and who wore himself out trying to cut pipe with old-fashioned tools—when he could just as well have used Nye Tools and done it much faster and easier, and kept the schoolgirl complexion.

Fraternally yours,

HARRY G. NYE.

Otherwise Known As

**THE NYE TOOL & MACHINE WORKS**

**4120-30 Fullerton Avenue**

**Chicago, Ill.**

(Copyright, 1928, by Harry G. Nye. All rights reserved.)

**Nye Drop Forged Pipe Cutter**

No. 1-A ⅛ to 1¼″.....$2.75 net
No. 2-A ¼ to 2″ ..... 3.30 net
No. 3-A 1 to 3″ ..... 5.50 net

Nye thin blade cutter wheel, made to fit all standard makes of pipe cutters, and guaranteed against breakage in use. Made both in smooth and knurled edge.

**Nye Saunders Pipe Cutter**

No. 1 ⅛ to 1″.....$2.00 net
No. 2 1 to 2″..... 3.00 net
No. 3 2 to 3″ ..... 7.33 net
No. 4 2½ to 4.....12.00 net
No. 5 4 to 6″.....18.67 net

# SERVING West Texas

Gulf Pipe Line Co's Electric Pump Station at Yates Field, Pecos County, Texas - served by West Texas Utilities

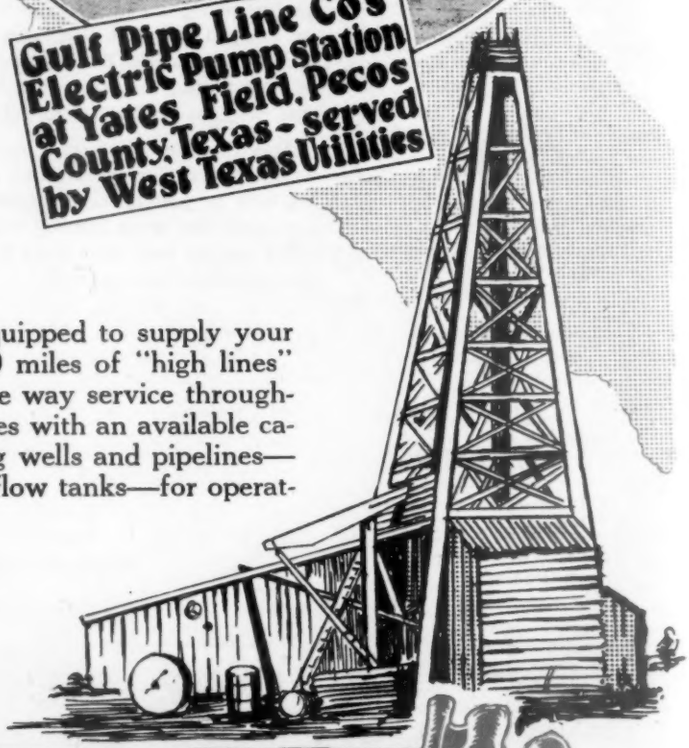
## Before You Buy MORE Power Equipment

***—let our Engineers estimate the savings you can make by changing to ELECTRICITY.***

## In the Yates— Trans Pecos Field

***— or the Jones, Callahan, Eastland, Shackelford and Fisher County Fields—***

—West Texas Utilities Company is well equipped to supply your EVERY demand for POWER. Over 2,000 miles of "high lines" carefully maintained—provide two and three way service throughout this territory—connecting you at all times with an available capacity of 70,000 horse power—for pumping wells and pipelines—for drilling and lighting wells—for heating flow tanks—for operating loading racks and gasoline recovery plants — IN SHORT, for performing EVERY oil field task, WITHOUT fire hazard.

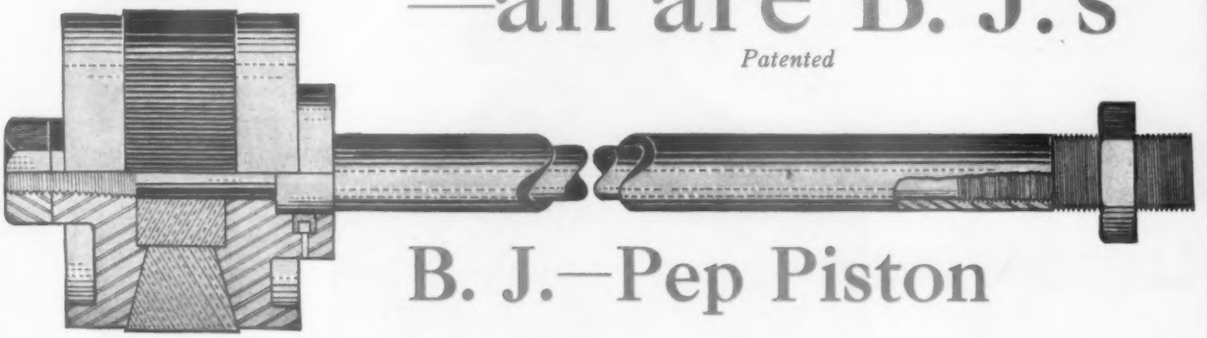


WEST TEXAS UTILITIES COMPANY
*In the Land of Opportunity*

*Say you saw it in The OIL WEEKLY*

# There are 3 Outstanding Pistons —all are B. J.'s

*Patented*

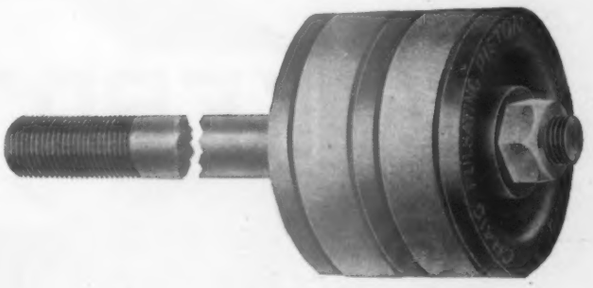


B. J.—Pep Piston

## for better slush pump service

To meet every condition of slush pump service, these three Pistons are available. Each has proved its worth for many years. Each embodies scientific principles that reflect their advanced design.

B. J.—Wilson Piston



B. J.—Craig Piston

*Ask for Literature.*

**Oil Tools Division**
of Byron Jackson Pump Company
2150 E. Slauson Avenue, Los Angeles, California

*Succeeding* Wilson & Willard Mfg. Co., Wilson Oil Tools Corp., Rotary Disc Bit Co., U. S. Tool Co., and Craig Oil Tool Co.

Tulsa, Okla. (Warehouse) 214 E. Brady St.
Houston, Texas 2201 Breckenridge St.
Fort Worth, Texas 814 Dan Waggoner Bldg.
New York City 1245 Graybar Bldg.

*Say you saw it in The OIL WEEKLY*

# REPLACEMENTS of Valve and Seat are *materially reduced* through use of the GRAY FLOAT VALVE

The cost of a Float Valve is so trivial compared with the savings which its use makes possible that to be without it on your operations represents a considerable loss.

They pay for themselves many time over; in wire lines, in brake bands, in fact through the relieving of strain from almost every part of the rig.

The **GRAY FLOAT VALVE** is saving materially in the cost of replacement parts and efficiency of operation for numerous of our customers. ***You will be agreeably surprised in the savings to be derived through its use.***

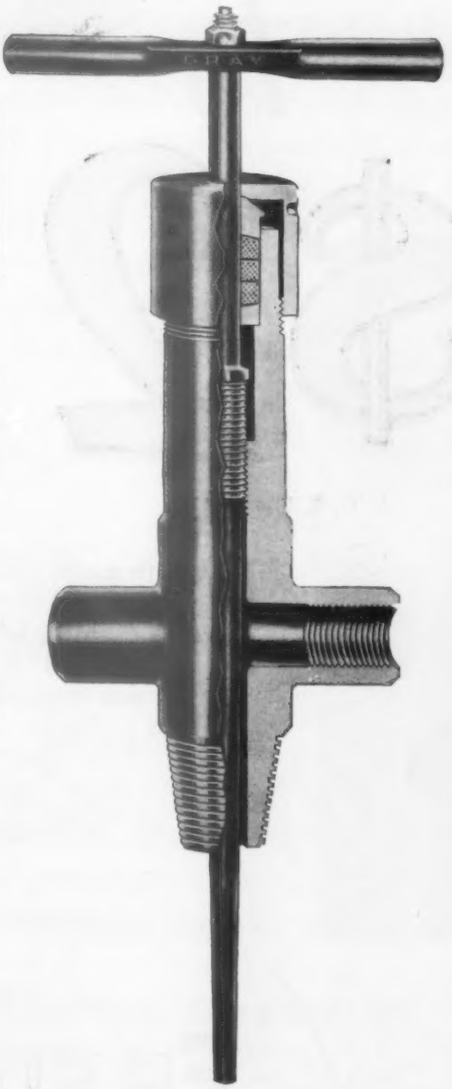
***We have valves that have served continously for over a year without changing parts.***

Through running valves over a period of three years, finding where they were cut and redesigning them to throw the fluid away from the point that showed cutting effects, we have been successful in making a valve that is withstanding the effects of mud-laden fluids over long periods of time without replacement of parts.

This additional wear makes possible, depending on the valve, use for more important emergencies than as a float valve. It is being used as an automatic inside blowout preventer and has proven that it will save half the expense of drill hose and slush pump valves by protecting them from the enormous pressure caused when drill pipe is spudded.

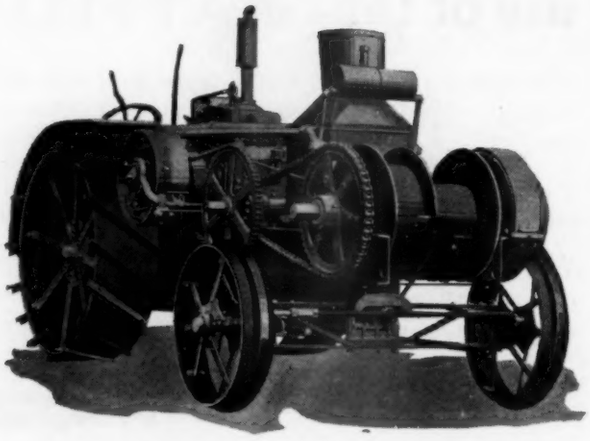
***Write for Illustrated Descriptive Folder***

**GRAY**
**TOOL COMPANY**
**HOUSTON ~ TEXAS**




GRAY MASTER CROSS
*For use in flowing well through drill pipe in connection with Gray Float Valve.*

# PRICE REDUCED



*to*

# $2,995

F. O. B. FACTORY

DUE to a sales volume that necessitated three extra factory runs above our regular schedule for the last half of 1928, Advance-Rumely takes pleasure in announcing that the price of the Rumely OilPull Winch Tractor has been reduced to $2,-995.00, this quotation becoming effective February 20, 1929.

RUMELY OILPULL TRACTOR

*The First OilPull Winch Tractors Ever Sold Are Still Working*

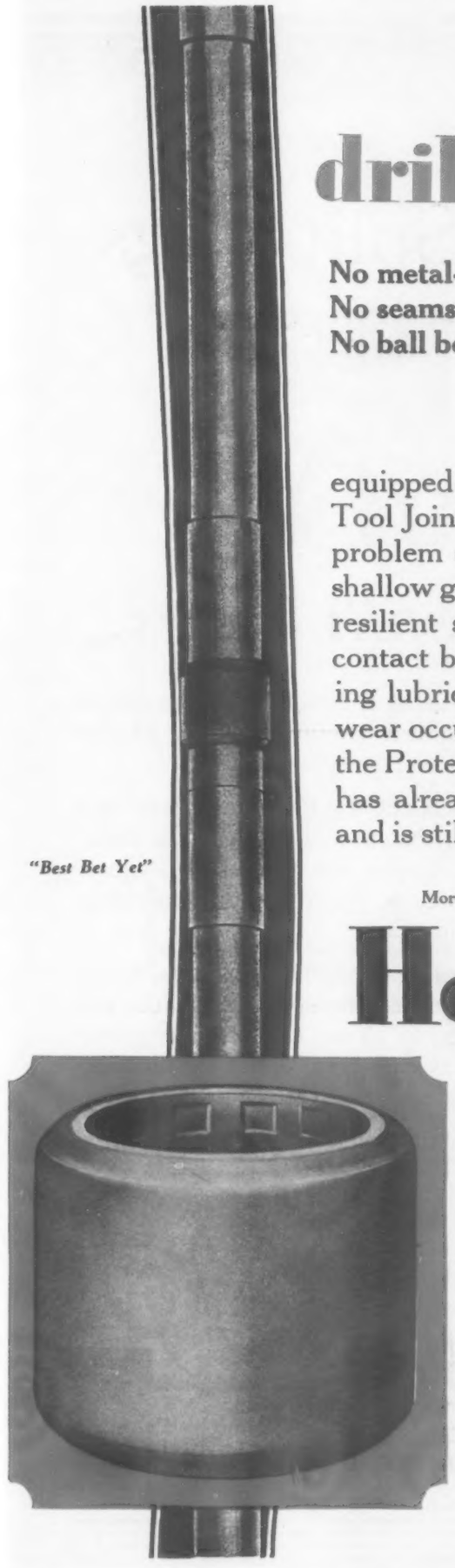
*Address all orders and inquiries to*

## FRED E. COOPER

*Special Rumely Representative and Developer of Oil Field Machinery*

18 S. MADISON TULSA

*Say you saw it in The OIL WEEKLY*



*"Best Bet Yet"*

# No more drill pipe abrasion

**No metal-to-metal contact.**
**No seams. No hinges.**
**No ball bearings.**

**Prevent wear on drill pipe.**
**Prevent wear on casing.**

GENUINELY anti-friction and equipped with Bettis Protectors, Hopkins anti-friction Tool Joints and Collars are the permanent solution to the problem of excessive wear on casing and drill pipe. A shallow groove accommodates the Protector. This gives a resilient seamless cushion that prevents metal-to-metal contact between pipe, joints, collars and the casing. Being lubricated by the mud no appreciable wear occurs on the string or casing. In fact the Protectors outlast the pipe. One string has already given 6818 hours of service and is still O. K.

*Fully Patented*

More than 100,000 Bettis Protectors in Service.

# HOPKINS *anti-friction* Tool Joints & Collars...

**with genuine Bettis Protectors**

## Patterson-Ballagh Corporation

Insurance Exchange Building, Los Angeles.
39 Cortlandt St., New York City.

*Mid Continent Distributors:*
Bettis Sales Co., 618 Public National Bank Bldg., Houston, Texas

*Stocks carried in* Los Angeles, Long Beach, Santa Fe Springs, Ventura, Bakersfield, Coalinga, Tulsa, Houston, Wink, New York City

# Abe Lincoln Split Logs

## *we split liners*

"Abe" made a considerable reputation for himself as a jam-up president. Maybe it was because he split logs!

The PERFECTION Core Barrel has also made a considerable name for itself, largely because it has a *split liner,* which lets you remove the whole core unbroken in two minutes.

Metal of diamond-like hardness which no formation can resist is used to face the cutter heads. Cores can be taken any length to twenty feet. Write for illustrated literature . . . today!

*Distributors*
**Continental Supply Company**
*All Stores*

**Wilson Supply Co.**
*Houston and Beaumont, Texas*

**Hercules Supply Co.**
Dallas, Texas

**T. T. Word Supply Company**
*Lake Charles, La.*

*Ask about Brewster A. P. I. products: Shouldered Tool Joints; Chrome Nickel Drill Collars; Six Blade Rock Bits; and Fish Tail Bits.*

The Brewster
COMPANY~INC.
SUCCESSORS TO OIL CITY IRON WORKS INC.
*Shreveport, Louisiana*

# AMONG CHAMPIONS

THE Moore Champion DERRICK

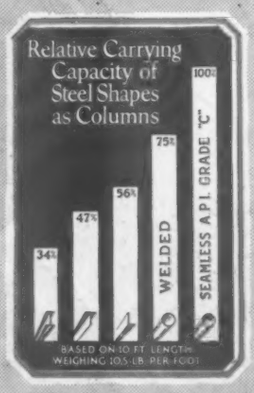
## STAMINA

STAMINA is strength that can be depended on; the ability to stand up under punishment and keep on, no matter how hard the going. Stamina is a Champion characteristic.

Moore Champion Derrick leg sections are of 40-50 carbon, seamless steel pipe. This is A. P. I. Grade "C"—the best—and has a minimum yield point of 45,000 pounds per square inch. Strength in the legs—where the greatest loads come—is assured.

Structural steel bracing, patented clamps, heavy base plates, rigid tops and all other parts of the derrick add to the dependable strength of the structure. The Moore Derrick has the real stamina of a Champion.

*The Moore Champion Derrick conforms to A.P.I. standards.*




*Note the superiority of seamless steel pipe for column loading. That's why it is used for Moore Champion Derrick leg sections.*

## LEE C. MOORE & CO., *Inc.*

PITTSBURGH · TULSA

*Established 1907*

Dallas, Texas
Houston, Texas
Wichita, Kansas

New York Offices: OILFIELD EQUIPMENT COMPANY
30 CHURCH ST., NEW YORK, N. Y.
*Stocks in All Principal Fields*

Parkersburg, W.Va.
Casper, Wyo.
Shreveport, La.

# Don't do it!

If you were like a cat, it might be all right to take a chance on *one* of your lives, but you're not.

You have but *one life; guard* it well. Wire Line goes into a hazardous service. The right grade of line in the right service is as safe as anything can be.

Be sure you use the right line. Don't take a salesman's word for its grade. Insist upon Factory proof. The tag on the line or mark on a reel is no proof of grade.

## WILLIAMSPORT WIRE IS TELFAX TAPE MARKED AND FACTORY CERTIFIED LINE

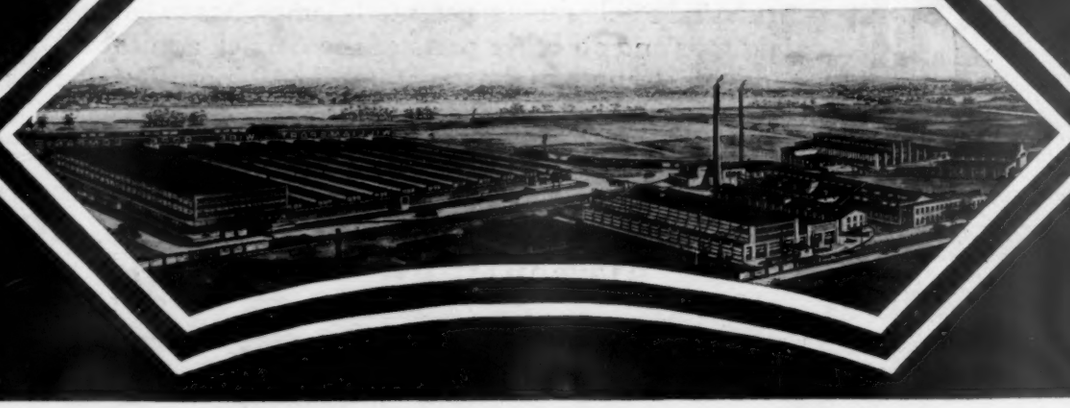
Look for the "Telfax" Tape in the hemp core. It will tell you exactly what grade it is— built into the line by the factory man who *knows.*

You're not a cat—You have only one life.
Don't guess—Be *SURE.* Use "Williamsport."

**WILLIAMSPORT WIRE ROPE COMPANY**

*Main Office and Works:* Williamsport, Pa.
*General Sales Office:* 122 S. Michigan Ave., Chicago, Ill.
*Oil Country Sales Offices:* Williamsport, Bldg., Fourth and Midland Valley Tracks, Tulsa, Okla.
*Distributors:*
Houston Shidler Blackwell Ardmore Holdenville Bristow Wichita Falls
Smackover Arkansas City Shreveport Casper Lewiston Electra
San Antonio Seminole Borger Pampa Wink Odessa, Texas Maud, Okla.
*Distributed by the* Bridgeport Machine Company, Wichita, Kansas, and all of their Mid-Continent Branches

*The Largest Exclusive Wire Rope Plant in America*



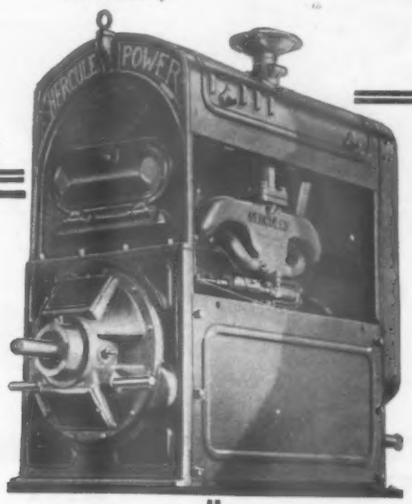
# *Doing One Thing Well*

**Specialization wins in every line of business.**

**During a period of eighteen years the Norvell-Wilder organization has concentrated on being a supply house of service to the oil and allied industries in the Southwest.**

**It has made records through delivering the right tools when needed—ON TIME. It has employed its experience in selecting equipment which will satisfy the needs of the industry.**

**Norvell-Wilder facilities and experience are at the service of Purchasing Agents who are seeking greater efficiency in their buying.**




## Hercules Motors

FOUR-CYLINDER ENGINES

| Model | Size | Model | Size |
|---|---|---|---|
| OX | 4 x5 | E | 5 x5¾ |
| OXC | 4¼x5 | TX | 5½x7 |
| K | 4¼x5¾ | TXA | 6 x7 |
| L | 4½x5¾ | | |
| G | 4¾x5¾ | TXO | 6⅜x7 |

SIX-CYLINDER ENGINES

| Model | Size | Model | Size |
|---|---|---|---|
| WXA | 3⅜x4½ | YXB | 4 x4¾ |
| WXB | 3¾x4½ | YXC | 4⅜x4¾ |
| WXC | 4 x4½ | | |
| YXA | 3¾x4¾ | YXC2 | 4½x4¾ |

NORVELL WILDER HARD-WARE CO. QUALITY AND SERVICE

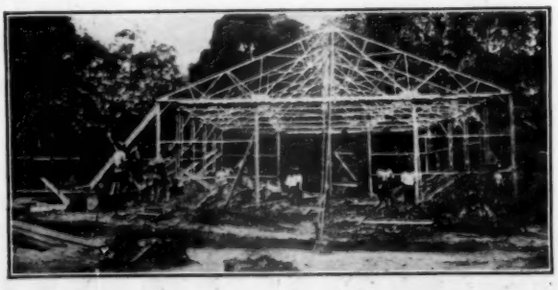
# NORVELL WILDER HARDWARE CO.

BEAUMONT HOUSTON SHREVEPORT FT. WORTH

# SERVICE EVERYWHERE

Through a service that reaches out to the four corners of the earth, IDECO Standardized Steel Buildings (galvanized) may now be purchased in foreign countries through the sales representatives of the Armco-International Corporation.

IDECO Buildings offer the producer equipment which time has proven most enduring, practical and economical. Their portability, ease of erection, fire and rust resisting qualities offer a solution to many operation problems. Write for catalogue.



*An IDECO standardized steel warehouse being erected by native labor in Trinidad near the San Francisque and Fyzabad oil fields.*

**The International Derrick & Equip. Co., Columbus, Ohio. Los Angeles, Cal.**

*Branches and stocks*—New York, N. Y.; Detroit, Michigan; Dallas, Fort Worth, San Antonio, Houston, Mexia, Wichita Falls, Pyote, Odessa, Amarillo, Luling, Borger, Corsicana, Pampa, Panhandle, Big Spring, Trent, Orange, Bruni, Texas; Shreveport, Oil City, Lake Charles, Louisiana; El Dorado, Smackover, Arkansas; Wichita, El Dorado, Valley Center, Kansas; Tulsa, Oklahoma City, Tonkawa, Drumright, Shidler, Okemah, Seminole, Allen, Sasakwa, Maud, Wewoka, Oklahoma; Los Angeles, Torrance, Bakersfield, Taft, California; Maracaibo, Venezuela.
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# The OIL WEEKLY

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# *Trinidad Drilling Progresses In Orderly Manner*

## Regulation of offset requirement is contrast to United States; crude output should reach new peak during present year

By ROY E. LEIGH
*Special Foreign Representative*

ROY E. LEIGH

TRINIDAD, Great Britain's most important West Indian colony, is expected definitely to assume first rank among the Empire's oil producing states during 1929, after having competed with Burma for leadership during recent years. The colony's oil production has been increasing steadily since it first got under way in 1910, with only two slight retrogressions in 1915 and 1919. The average rate of increase has exceeded one-half million barrels per year since war efforts began to yield results in 1915; but the increase has approached one million barrels per annum during the preceding five years. Last year was a record-breaker, with an increase of more than 2¼ million barrels, of which about three-quarters of a million barrels represents the work of a newly-established American company.

Certain potentially productive Crown lands were thrown open for development during 1928, which augurs well for a further substantial increase during 1929. It is conservatively estimated that the output of crude oil may range between nine and ten million barrels during the current year. Sir Thomas Holland, K. C. S. I., K. C. I. E., F. R. S., Director of the Imperial College of Science and ex-President of the Institute of Petroleum Technologists and Mining Engineers, who made a comprehensive survey of the industry during 1928, calculates that Trinidad's peak of production may be attained between 1938 and 1943.

### Jealously Guarded

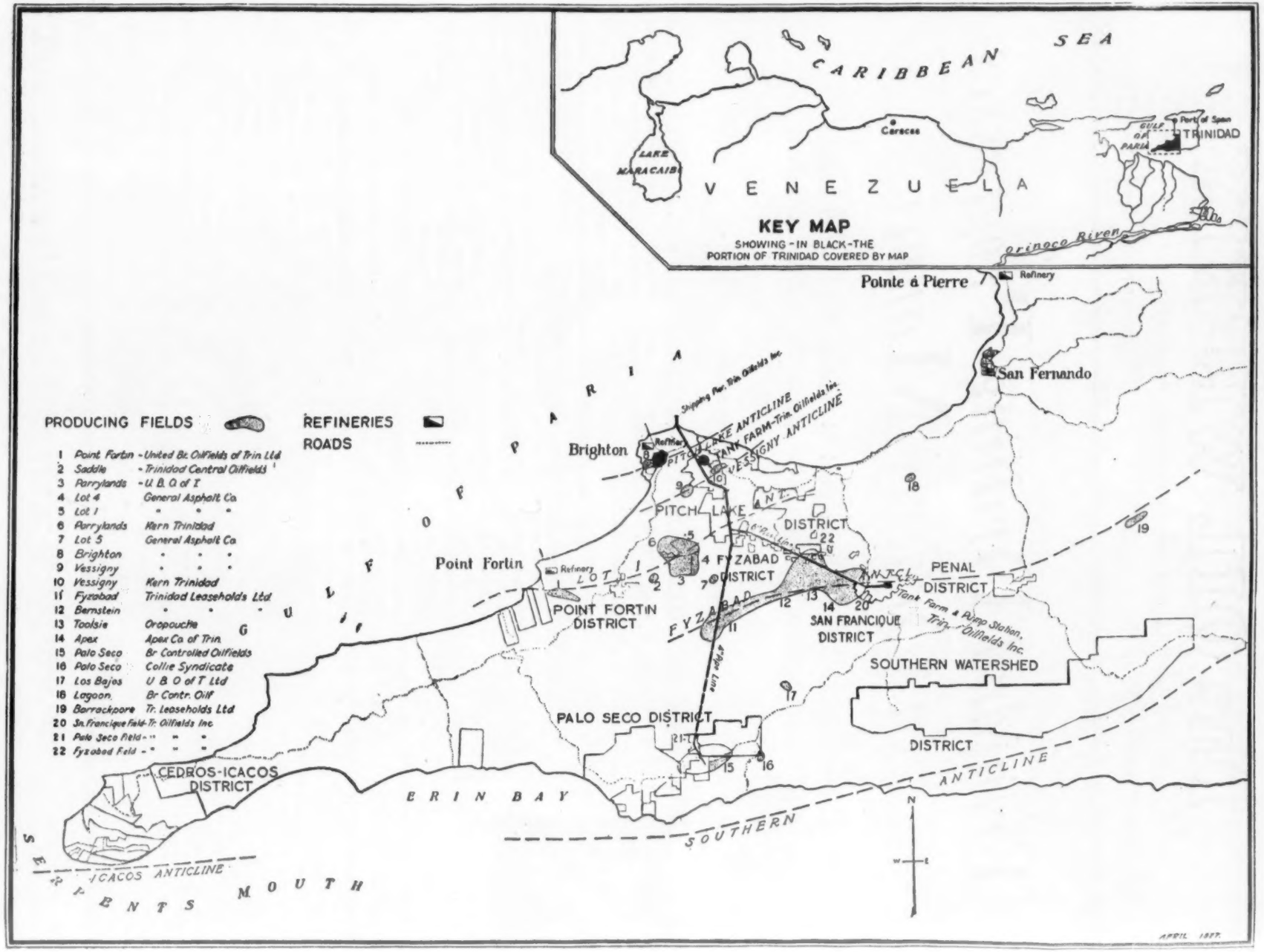
This new-world source of naval fuel is of prime importance to the British Admiralty, whose warships and tankers regularly call in the Gulf of Paria for bunkers. It is guarded jealously, and with characteristic British tenacity. American interests invaded this British stronghold in 1926 and organized Trinidad Oil Fields Operating Company, Ltd., now owned indirectly by Standard Oil Company of New Jersey. Despite the fact that this company was organized under Trinidad law, with a British majority in its directorate, it was arbitrarily classified as an alien corporation; and, to all practical purposes, was denied the right to operate on Crown lands. This invasion seemed to cause considerable perturbation in official quarters, as Sir Thomas Holland, one of England's foremost petroleum technologists, was sent out by the Colonial Office with instructions to investigate the situation and formulate a "development policy designed to promote the maximum and most efficient exploitation of the island's oil resources, *without impairing the Crown's policy of leasing oil in its possession only to interests under British control.* This delicate situation—created by the intrusion of American interests which forthwith constructed offices, bungalows, pipe lines, storage, and shipping facilities, and proceeded with equal dispatch to develop a nucleus of crude oil production and begin tanker shipments to the Atlantic seaboard—has served to retard the further expansion of the local oil industry, as distribution of Crown lands was held in abeyance for more than two years, until the situation could be studied thoroughly and from all angles.

The Colonial and Home governments seem finally to have assured themselves of the strength of their position, however, as their policy of exclusion was publicly announced late in 1928; and Crown lands applied for by American interests were granted to British companies who had made subsequent application.

### American Refinery

This long-deferred action seems to close the Crown-land question, for the time being, at least; but interest recently has been shifted to the refining and marketing phase of the competition between leading British and American interests. The West India Oil Company, Standard Oil Company of New Jersey's West Indian marketing unit, is proceeding with plans for the construction of a refining plant near Pitch Lake and Brighton, which will utilize the crude oil production of its subsidiary, Trinidad Oil Fields Operating Company, Ltd. Although the West Indian and Caribbean market is now dominated by the Royal Dutch Shell, this recent move on the part of the Standard Oil Company of New Jersey will go far toward equalizing the competitive positions of the two great organizations in this territory.

It has been suggested that this new plant


CARIBBEAN SEA
Caracas
LAKE MARACAIBO
VENEZUELA
Port of Spain
GULF OF PARIA
TRINIDAD
KEY MAP
SHOWING - IN BLACK - THE PORTION OF TRINIDAD COVERED BY MAP
Orinoco River
Pointe à Pierre
Refinery
San Fernando
PRODUCING FIELDS
REFINERIES
ROADS
1 Point Fortin - United Bt. Oilfields of Trin Ltd
2 Saddle - Trinidad Central Oilfields
3 Parrylands - U.B.O. of T
4 Lot 4 General Asphalt Co
5 Lot 1 " " "
6 Parrylands Kern Trinidad
7 Lot 5 General Asphalt Co
8 Brighton " " "
9 Vessigny " " "
10 Vessigny Kern Trinidad
11 Fyzabad Trinidad Leaseholds Ltd
12 Bernstein " " "
13 Toolsie Oropouche
14 Apex Apex Co. of Trin.
15 Palo Seco Br Controlled Oilfields
16 Palo Seco Collie Syndicate
17 Los Bajos U.B.O. of T Ltd
18 Lagoon Br Contr. Oilf
19 Barrackpore Tr. Leaseholds Ltd
20 San Francique Field - Tr. Oilfields Inc.
21 Palo Seco Field - " " "
22 Fyzabad Field - " " "
Brighton
Refinery
Shipping Pier, Trin. Oilfields Inc.
PITCH LAKE ANTICLINE
TANK FARM-Trin. Oilfields Inc.
VESSIGNY ANTICLINE
PITCH LAKE
DISTRICT
FYZABAD DISTRICT
Point Fortin
Refinery
LOT 1
POINT FORTIN DISTRICT
FYZABAD
PENAL DISTRICT
SAN FRANCIQUE DISTRICT
Tank Farm & Pump Station, Trin. Oilfields Inc.
SOUTHERN WATERSHED
PALO SECO DISTRICT
DISTRICT
CEDROS-ICACOS DISTRICT
ERIN BAY
SOUTHERN ANTICLINE
ICACOS ANTICLINE
SERPENTS MOUTH
GULF OF PARIA
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may be the nucleus of a great refinery base, intended ultimately to handle the Standard Oil Company of New Jersey's potential production in Eastern Venezuela. Sir Thomas Holland himself stresses Trinidad's enjoyment of stable political conditions, and makes what has been interpreted as an official bid for the establishment of such a refining unit in Trinidad. He points out that such an industry might be expected to endure long after the exhaustion of the island's crude oil reserves; and proposes the removal of the existing import duty on crude oil, which now stands as an obstacle in the way of such a plan.

### Daily Production

Trinidad has a current average production of from 20,000 to 24,000 barrels of oil per day from approximately 1000 wells, divided among the several operating units substantially as follows:

| Company— | Daily Production |
|---|---|
| Trinidad Leaseholds, Ltd. | 9,500 |
| Apex (Trinidad) Oilfields, Ltd. | 7,500 |
| British Controlled Oilfields, Ltd | 1,600 |
| Trinidad Oil Fields Operating Company, Ltd. | 1,500 |
| Kern (Trinidad) Oilfields, Ltd. | 1,000 |
| United British Oil Fields of Trinidad, Ltd. | 995 |
| General Asphalt Company's subsidiaries | 825 |
| Venezuelan Consolidated Oilfields, Ltd. | 400 |
| Trinidad Central Oilfields, Ltd. | 300 |
| C. C. Stollmeyer | 40 |
| Approximate Total | 23,660 |

These companies operate from 40 to 50 rotary rigs almost continuously, in contrast to the policies of American producers, who usually are forced by offset competition to hasten the development of proven lands, irrespective of market conditions, in order to fulfill their lease obligations and protect their boundaries from drainage. Such conditions do not obtain in Trinidad, where operators are at liberty to choose their own time for drilling and development. Spheres of influence by which each company's activities are set apart, more or less, usually obviate offset competition; and the "implied covenant," or offset rule, is unheard of in Trinidad jurisprudence. Thus, the development of the colony's petroleum resources proceeds at a leisurely pace, in true British fashion.

[1]"As indicated by market appreciation of the nominal value of their shares." See Council Paper No. 86 of 1928.

### Geology

Geologically and in other respects, Trinidad is closely related to the South American continent, from which it is separated by the Gulf of Paria, a narrow body of water into which empty several of the northern mouths of the Orinoco River. It is situated between latitude 10° 3′ and 10° 50′ north and longitude 60° 55′ and 61° 56′ west from Greenwich. Its average length is about 50 miles, and breadth about 37½ miles, its total area being approximately 1862 square miles. The island is traversed by three parallel ranges of hills running approximately east and west, which are but continuations of similar mountain ranges in Venezuela. The Northern Range attains an altitude of over 3000 feet, and consists of a metamorphic area which has been condemned by geologists as very unlikely to produce oil. One small oil field has been found at Tabaquite, in the Central Range, despite which that area is not very highly regarded as a potential source of additional production.

Practically all of the oil produced in Trinidad has been obtained from strata of tertiary age in the northwestern part of an undulating basin area lying between the Central and Southern ranges and between San Fernando, Mayaro Point, Guayaguayare Bay, and Icacos Point, the southernmost tip of the island. This basin contains several zones of folding, with an east-west strike along which oil is found. There are 15 different producing fields in this area, of which those of most importance now are the Fyzabad, Palo Seco, and Pitch Lake districts.

The Fyzabad anticline is the most important oil field in the colony, as it accounts for about two thirds of current production. Fyzabad and San Francique are the homes of the Apex and Leaseholds companies, who are the leaders of the colony, being the only[1] two organizations whose operations have shown a profit, so far. Trinidad Oil Fields Operating Company, Venezuelan Consolidated Oilfields, and British Controlled Oilfields are also represented in this fertile district, which has accounted for nearly half of the colony's oil production, to date.

The Palo Seco district appears to be the most important undeveloped field of the colony, if one excepts the Lizard Springs discovery of Trinidad Central Oilfields, where development has not yet been undertaken in a comprehensive way. The Palo Seco field, which was extended in 1927, is of considerable importance as a potential source of increased production, as the newly-distributed Crown lands are situated within its borders. These lands were granted to British Controlled Oilfields and Venezuelan Consolidated Oilfields, who are expected to proceed at once with their development. The American company, Trinidad Oil Fields Operating, is strongly-entrenched on freehold lands (alienated prior to the reservation of oil to the Crown), which were leased from private individuals. Several very promising wells have been completed in this district during recent months. One small tract, intensively developed, has yielded around 22,500 barrels of oil per acre in two years' time. However, the average of the field may be considerably less than that figure.

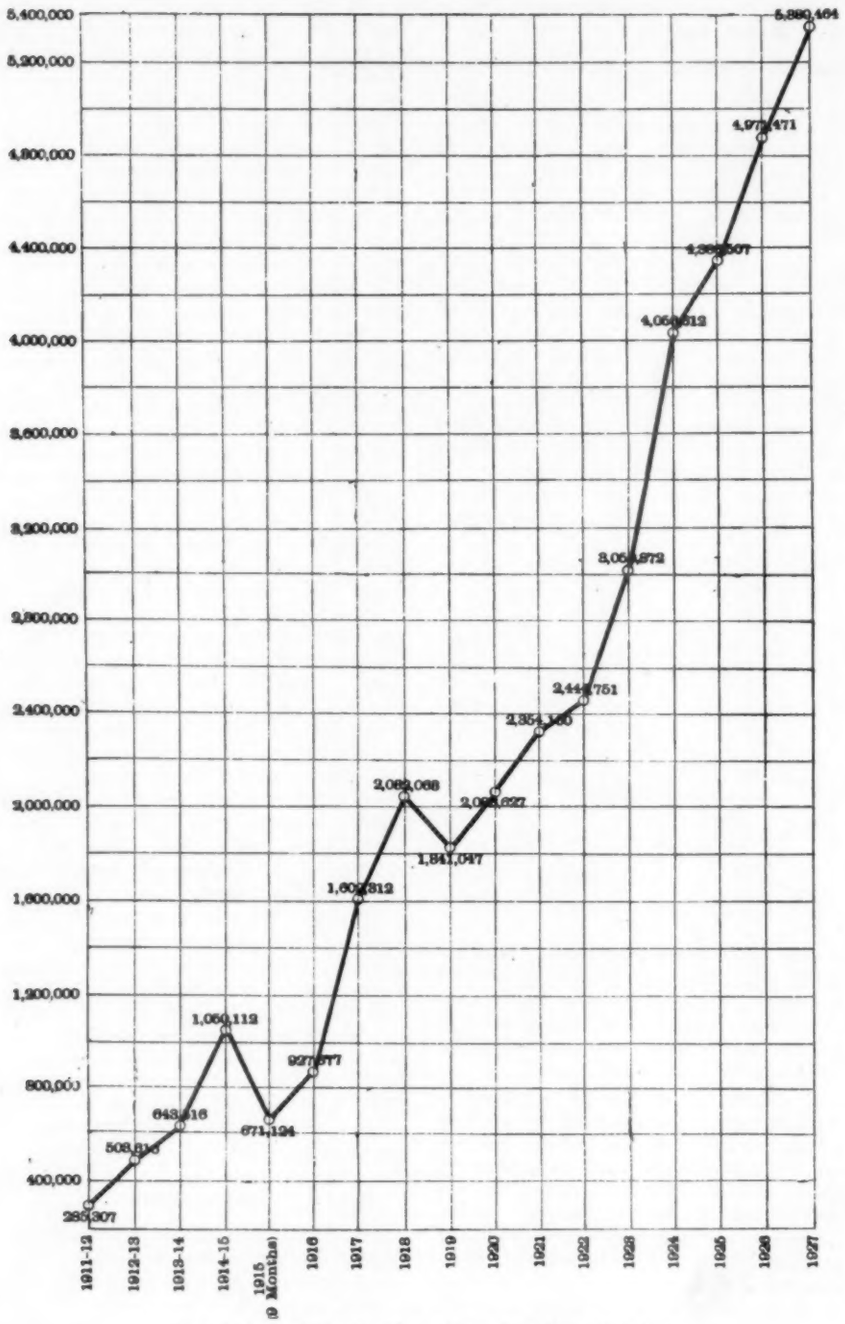
The older fields at Tabaquite, Barrackpore, and Oropuche are declining; and, were it not for the fact that deep drilling seems to offer great possibilities in Trinidad, they might be said to hold nothing in reserve for the future. Trinidad Central Oilfields discovered what promises to be a new field at Lizard Springs during 1928. Light oil was found at a shallow depth; and further drilling, by the use of spudding machines, is now in progress.

### Guayaguayare

Trinidad Leaseholds has practically suspended drilling activity on the Guayguayare anticline in the extreme southeastern part of the island. This company expended large sums of money in the construction of roads, camps, telephone lines, and other facilities in this district during 1926 and 1927. A production of around 400 barrels of 30 gravity oil was developed from 500-foot wells of low average production. The

**Trinidad Production of Crude Oil Since 1916 (Barrels)**

| Year | Crown Lands | Private Lands | Total |
|---|---|---|---|
| 1916 | 478,813 | 449,064 | 927,877 |
| 1917 | 1,065,942 | 536,369 | 1,602,311 |
| 1918 | 1,588,850 | 493,218 | 2,082,068 |
| 1919 | 1,529,551 | 311,496 | 1,841,047 |
| 1920 | 1,758,058 | 324,969 | 2,083,027 |
| 1921 | 1,752,150 | 602,010 | 2,354,160 |
| 1922 | 1,535,013 | 909,739 | 2,444,752 |
| 1923 | 1,910,547 | 1,140,325 | 3,050,872 |
| 1924 | 2,486,269 | 1,570,343 | 4,056,612 |
| 1925 | 2,877,437 | 1,509,070 | 4,386,507 |
| 1926 | 2,976,227 | 1,995,243 | 4,971,470 |
| 1927 | 2,362,007 | 3,018,171 | 5,380,178 |




*Total Annual Production of Crude Oil in Trinidad*

secret of this field is closely guarded. While it is generally believed that Trinidad Leaseholds has been disappointed in the mediocre returns from its heavy expenditures in opening this field, the opinion is held in some quarters that development has been postponed pending a more acute need for the oil. It seems quite obvious that the necessary expenditures for pipe lines or barges and other transportation facilities would not be justified under the market conditions which have obtained during the last two years.

The 47,000,000 barrels of crude oil which has been produced in Trinidad to date has come from the several sources in proportions approximately as shown below:

Fyzabad, 48 per cent.;
Parrylands, 19 per cent.;
Bernstein, 8.5 per cent.;
Barrackpore, 5 per cent.;
Other fields, 19.5 per cent.

Trinidad has been known as a source of oil production for 62 years. Oil was found in a well drilled near the famous Pitch Lake shortly after the close of our civil war. At about that time, Samuel Downer, of Boston, attracted by a seepage of heavy oil, spent something like $100,000 in an unsuccessful drilling operation on the shore of the asphalt lake, near La Brea and Brighton. George Copp Warren, of Boston, states in his booklet, *The part of the Warrens in the development of coal tar, petroleum, and asphalt,* that when he visited Trinidad in 1893 the asphalt company was recovering about 30 barrels per month of viscous oil, of about the consistency of molasses, from a seepage near Pitch Lake.

The first decade of the new century was important as a period of exploration. Encouraged by seepages and discoveries of oil around the famous natural lake of asphalt, operators ranged farther afield and found oil at Point Fortin, Vessigny, Barrackpore, and elsewhere. The colony's first gusher was drilled by the New Trinidad Lake Asphalt Company in 1908, which company exported the first cargo of oil from Trinidad in 1910. The second decade marked the beginning of intensive development on a commercial scale, and the discovery of important oil reservoirs at Fyzabad (Forest Reserve and San Francique), Parrylands, Los Bajos, Palo Seco, and elsewhere in the southern part of the island.

### Refining Operations

Trinidad has four refineries in operation, five sealoading terminals, between three and four million barrels of steel storage (estimated), and approximately 150 miles of pipe lines extending from the several producing fields to refining and shipping points on the west coast (Gulf of Paria).

Trinidad Leaseholds has a combined topping and cracking plant at Pointe-a-Pierre, near San Fernando, which is now handling a throughput of around 17,000 barrels of crude per day. It consists of two Dubbs double-unit cracking stills, and two topping plants with re-run stills. It is reported that further construction and expansion is planned for the current year, as a feature of the company's program of expansion.

United British Oilfields of Trinidad, Ltd., managers of United British Refineries, Ltd., operates a 2500-barrel topping plant at Point Fortin. Trinidad Central Oilfields, Ltd., has a small but complete refining plant at Tabaquite, which has a capacity of from 500 to 600 barrels of crude per day, and turns out gasoline, kerosene, and a complete line of oils and greases. The subsidiaries of the asphalt company have an 1100-barrel topping plant at Brighton, near Pitch Lake.

Deep-water sea-loading terminals are located as follows:

Trinidad Leaseholds, Pointe-a-Pierre;
Trinidad Central, Claxton's Bay;
Trinidad Oil Fields Operating Company, Sobo (La Brea);
Asphalt companies, Brighton (La Brea);
United British, Point Fortin.

It is rumored that a sixth loading-pier may be constructed soon.

Gasoline made from Trinidad crude has a natural anti-knock quality, for which it is highly-prized in the competitive markets of New England, New York, and Europe. Crudes of all grades and gravities, ranging from 14° to 46° Baume, are produced in the colony. Some of it contains little or none of the light products, but the crudes of higher gravity have a very satisfactory gasoline content.

Excepting that produced in the Tabaquite Field, which is of paraffin base, all Trinidad oils have an asphaltic base.

# Weight Indicator *Solves Many* Drilling Problems

By WALLACE DAVIS
*Staff Representative*

IF Driller Ike of 20 years ago took a nap on the night shift in this day of new-fangled tools, the superintendent could read about it next morning in the little newspaper that's published every 24 hours at its position just above the derrick floor.

Since the days of sleeping on the job in the oil business are about gone, this use of the weight indicator is one of the least important among many aids offered by the instrument; however, the roughneck in rotary country refers to it as his "stool-pigeon."

The weight indicator, illustrated here with the type manufactured by the Martin-Loomis Corporation in California, has gained wide popularity among operators during the past two years, solving numerous drilling problems, and some comcompanies have adopted the instrument as standard equipment on drilling wells.

The two clock-like devices, protected by a metal case which is attached to a cross-bar just over the derrick floor, charts up its information from fluid pressure determined by the force placed against a small piston in a fluid filled metal disc attached on the dead-line so as to measure the pull on the line in the hole. The wire line, held firmly in place by hooks at the top and bottom of the metal disc, exerts its full force against the piston on which it fits in a groove. The position of the piston's outer end is at the peak of a conical part of the disc, thus throwing the full weight of the line's load onto the piston. As the line forces the piston inward it replaces a certain amount of fluid, forcing it through a metal hose to the indicator proper, the hose thus relaying the pressure to the gauge.

The speedometer-like indicator shown on the left records details of weight on the line for immediate information to the driller. The recording device on the right simply records weight history in daily periods on a paper, marking down in red ink the path of weight on the line at all times during the day.

Through use of the weight indicator the driller knows whether or not he has his "fish" when he pulls up off bottom. The difference in weight shown on the indicator gives this information. It eliminates the possible pulling out to find the fishing job was unsuccessful.

The same aid is given the crew in the job of setting screen. By the weight shown on his indicator the driller knows immediately whether or not the screen and liner has been successfully unscrewed. The weight of screen and liner is found minus on the gauge. Naturally, allowances have to be made for fluid when drill stem or other equipment with water courses are envolved in the job in the hole, but such is only a matter of simple arithmetic.

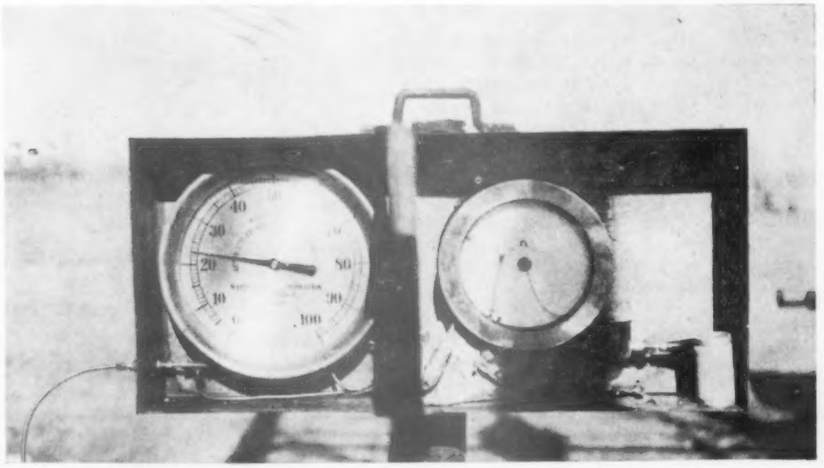
Engineers are agreed on the point of too much weight on the drill stem resulting in crooked holes. With information from the indicator the driller knows at all times how much load he is carrying, and can correct the situation before deflection of a serious nature is started.

Operators also agree with equipment manufacturers that even running, with a steady load, lengthens the life of equipment generally. This steady load can more accurately be judged with the aid of the weight indicator, and a more even strain can be kept on the string.

The recording gauge at the end of the day represents an accurate record of work done. Each trip in and out of the hole is shown by sharp curves departing from the even curve of steady drilling. In case the rig is idle the record line shows no change for the idle period. Spudding is distinctly shown on the chart by intermittent periods of excessive weight followed by a return to less than that of normal drilling. Stretches of soft or broken formation are clearly indicated, and a stuck bit has its distinct jagged line as an immediate telltale.

By reading charts over a certain period of running, information is available for determining the service of wire lines, and thus another valuable record is at hand.

*Instrument hooked on dead-line determines load on string and relays it by fluid pressure through metal hose to gauges*



*Martin-Loomis Weight Indicator, showing the gauge for immediate information on the left and the recording gauge covering the 24-hour period on the right*

*Paper Read Before A. I. M. E. New York Meeting*

# The Effect on Producing Wells of Shutting in the Offset Wells

By C. M. NICKERSON
*Petroleum Engineer, U. S. Navy Department*

IN times of overproduction such as the operators have been struggling ainst for the past several years it is the practice of the oil industry to shut in certain wells in order to reduce the flood of oil. The purpose of this paper is to present certain variations in production of oil wells when the offset wells are shut in. The scope of the study has been confined to California fields, and more especially to those of the San Joaquin Valley.

The accepted definition of a shut-in well is a well where production has been suspended by closing in the casinghead and tubing or by cessation of pumping. The immediate effect of such a procedure, of course, is to reduce the oil production from the lease, which is the result desired. However, it appears that certain types of wells vary widely in production of oil, gas and gasoline after adjacent wells have been shut in, which variation has a very material effect on the ultimate recovery of oil from the property. The increase or decrease in the oil production itself may not be of sufficient volume to occasion comment, but wide fluctuations in the gas and gasoline recovery under the changed conditions are of the utmost importance in the future recovery of oil.

The scope of this paper includes: (1) the effect on producing oil wells of shutting in offset wells, the wells being studied in three groups arranged according to their relative stages of depletion; (2) probable source of excess gas and the effect on the ultimate recovery of oil; (3) suggested procedure when wells are shut in; (4) methods that could be employed to prevent undue migration of gas from the shut-in area; and (5) the need for future studies of the situation.

### Three Classes of Producing Oil Wells

For the purposes of this paper producing wells in California have been arranged in three groups according to the age of the well, or to the relative stage of depletion of the producing zones. The first group consists of those wells with a high fluid level, or in other words those wells whose fluid levels are a considerable distance above the top of the perforations. This type of well is in the flush period of its life and ordinarily produces considerable volumes of wet gas, and is either flowing or has been placed on the beam a relatively short while. The second group consists of those wells with the fluid level just above, or even a short distance below, the top of the perforations. These wells have been producing for a considerable period, but still have substantial gas and gasoline production. In this group the gas is the major factor in forcing the oil to the well. In the third group have been placed those wells that are in the last period of commercial production. This type of well produces little if any gas; the production is necessarily very small; and the force of gravity and the driving effect of encroaching edgewater are the main factors in oil recovery. Although this paper is mainly concerned with the second group, the effect of shutting in offset wells will be considered on each group in the order of the above classification.

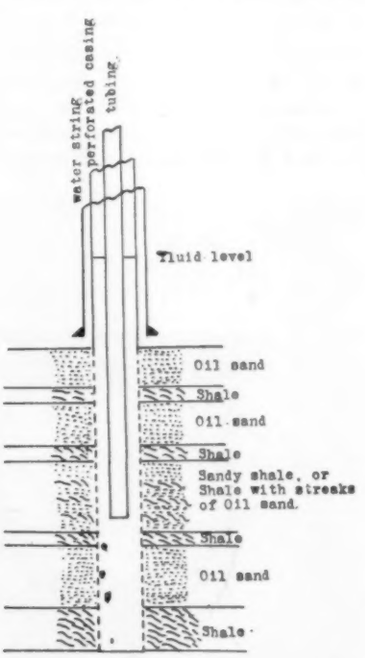



*Figure 1—Average subsurface conditions in California oil fields*

### Subsurface Conditions

In order to give a clear conception of the movements of oil through the producing zones of California oil fields the average subsurface conditions are mentioned briefly.

In most of the oil fields of California, oil is found in loose, unconsolidated sands and in sandy shales. The texture may vary from very fine sand to that which is fairly coarse. The thickness of the zone may vary from one to several hundred feet, the sand strata alternating with thin shale bodies. Unless intermediate edgewater is encountered the entire thickness of the producing zone is open in the well through the perforated casing (Fig. 1). Each of the separate bodies of oil sand may have its own peculiar production characteristics, but ordinarily as much of the zone is open to production as is possible. Quite often in the early history of a field a well is placed on production from the upper portion of the zone, and later when production from that particular zone is partially depleted and when more accurate geological information has been compiled, it is deepened to lower productive strata in the same zone.

The wells studied in this paper are located in fields where the sands have considerable lateral extent, i. e., migration of oil and gas from one location to another is the ordinary occurrence, and is not prevented by any lenticular character of the oil sands.

To sum up the above: the producing wells in a field where a shutting-in policy has been inaugurated have partially depleted the upper strata of the zone, because this portion has been on production for a longer period than the lower strata of the zone, which therefore remains more prolific. Due to

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large areal extent of the oil sands the shutting in of an offset well tends to increase the drainage area of the wells continued on production, while the drilling of the wells through the entire thickness of the producing horizon opens artificial channels between the several individual strata, which may under certain conditions be the course of the migration of oil and gas from one portion of the zone to another and perhaps even from well to well.

### Effect of Shutting in in Areas of High Fluid Levels—Group 1

During the flowing stage of flush production period in the life of the well the reservoir pressure is decreasing rapidly, especially in the area immediately surrounding the producing well. The fluid levels in such young wells are high, ranging from the surface to a considerable distance above the top of the perforations. Even after such wells have been placed on the pump, they are still ordinarily considered as in the flush state of production until fluid levels have been materially reduced. This type of well has been placed in group 1 for purposes of comparison.

The subsurface conditions in such cases show the sands to be depleted only partially of the oil content. The face of the sand is still covered with oil, since the fluid level is well up in the casing, and the reservoir pressure is still rather high (Figure 1). The production of oil is accompanied by considerable volume of wet gas with a good gasoline content.

When wells in this group are shut in, the offset wells continued on production have an increased drainage area, and ordinarily show an increase in oil production. The gas and gasoline production does not vary to any material extent, although the gas/oil ratio may be reduced somewhat. Under shut-in conditions for wells in this classification the production characteristics tend to approach those obtaining in the first few months of the life of the well, particularly in reference to gas production, its gasoline content, and the gas/oil ratio.

If wells in group 1, i. e., in the flush stage of production, are shut in, there may be a marked decrease in oil recovery when they are again returned not discuss the probability of changes in capacity of such shut-in wells, since to production. However, this paper will it is concerned with the effect on the offsetting wells which are not shut in. In California it is the practice to shut in wells on fairly well depleted properties, and to continue producing those wells in other fields which are in the early stages of their flush period. Lease requirements and offsetting conditions are more apt to require continuing young wells on production than wells on those properties which have yielded a substantial portion of their oil content.

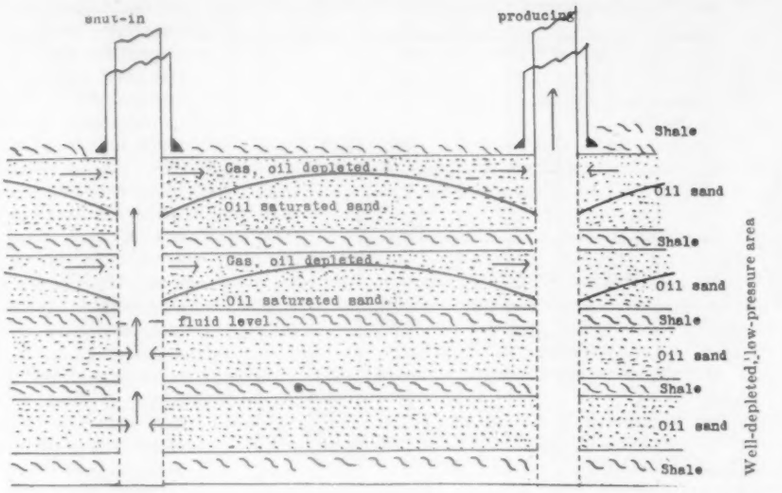



*Figure 2—Subsurface conditions where wells have been producing from upper portion of zone for a considerable period of time, before being deepened to lower portion of zone*

*Arrows indicate possible course of gas from shut-in well to producing well*

In conclusion, the effect on wells of group 1 which are not shut in include slightly increased oil recovery, corresponding increase in gross gas production, with slightly smaller gas/oil ratios, and in some cases an increase in the gasoline content of the wet gas. Due to the decrease in gas/oil ratios there appears to be an ultimate beneficial effect on the property as a whole, since the ultimate recovery of oil is increased.

### Effect of Shutting in in Areas of Low Fluid Levels, with Substantial Gas Production—Group 2

Under the common drilling practice in California fields an oil property usually reaches its peak of flush production in the first year or two of its life, which indicates that the individual wells are also in the flush period of their life during the first two years. Following this period the wells decline rapidly, after which the decline curve flattens out accompanied by but a small decrease in oil recovery each month. There are still substantial volumes of wet gas obtained with the oil, but the property is considered as having passed its peak. This period covers roughly about 20 years, or until the lease is considered depleted of its oil and gas content. Wells which have passed their peak of flush production and are now undergoing a slow decline each month have been placed in group 2 for the purposes of discussion. Of course, there is a gradual change in production

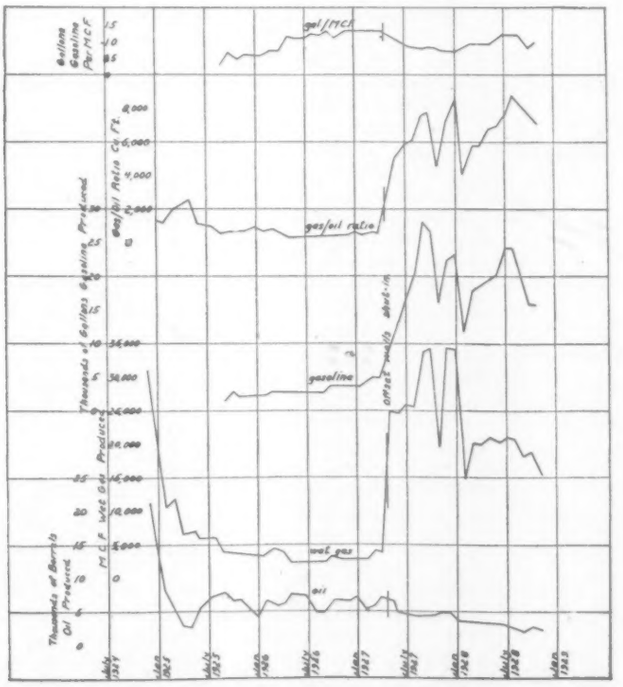



*Figure 3—Total Monthly Production Curves, Individual Well*

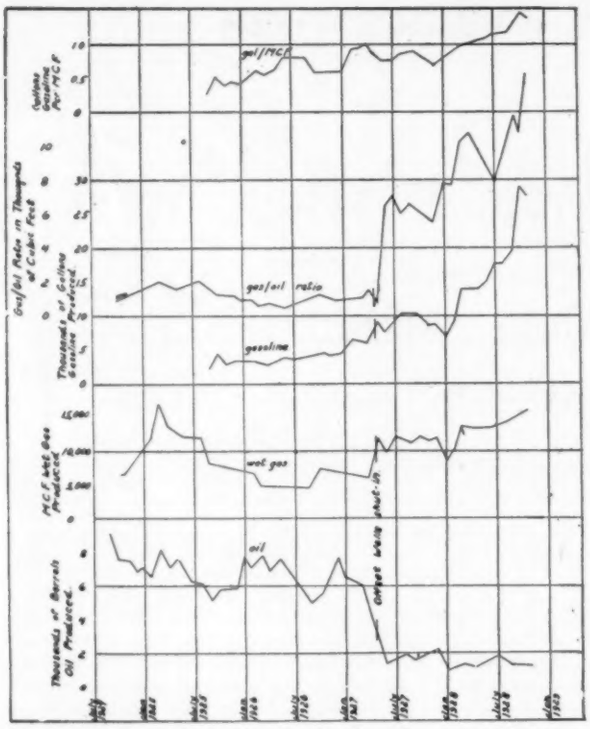



*Figure 4—Total Monthly Production Curves, Individual Well*

characteristics when a well passes from one classification to the other, a fact which must be borne in mind in considering the conclusions of this study.

In wells in group 2 the fluid level is commonly well below the top of the perforated casing or oil string, the production declines slightly but steadily each month, and the gas and gasoline recovery are of considerable volume. When wells that may be classified as group 2 are shut in, it has been found that the offset wells that are continued on production have important changes in volume of production, which unless clearly understood and properly controlled may adversely affect the ultimate recovery of petroleum from the lease.

In the Elk Hills oil field, California, a very extensive program of curtailing production has been in effect for about 18 months, about 50 per cent. of the producing wells having been shut in. An ideal situation for a study of this kind is obtained here with undrilled, proved areas offsetting the shut-in wells on one side and producing wells offsetting them on the other. The effect of the undrilled, proved areas on the producing wells serve merely to magnify the changes in production characteristics, which would occur in any other area classified under group 2.

The general subsurface conditions have been illustrated in Figure 2, which shows the writer's conception of the partly drained oil sands in the upper portion of the hole and the well-saturated oil sands in the lower portion. The face of these lower sands is covered, since the fluid level is below the top of the perforations, while the face of the sands first encountered in drilling is uncovered due to the low fluid level, and undoubtedly have little oil in the upper portion of their individual strata. The voids formerly filled with oil are now filled with wet gas that has escaped from the sands adjacent to the well. If the sands have considerable areal extent, it is very easy to conceive of a channel from well to well at the upper portion of the zone, which is depleted of oil and is filled with wet gas. It is this channel that apparently accounts for the remarkable increases in gas and gasoline recovery by the wells which offset those shut in. In fields where the producing zone is lenticular in character such a channel could not exist except in a limited area between a very few wells. However, these conditions obtain in but few California fields. In Figure 2 the undrilled, proved area is indicated to the left, with the entirely drilled, well-depleted area to the right. The rows of shut-in wells are not indicated by other than the one well log, with the wells on production shown by the theoretical log on the right. If one line of wells or several lines were shut in, the effect would be the same on the offsetting line of wells or in decreasing amounts on several adjacent offsetting lines of wells.

For the ideal situation in the Elk Hills oil field, production curves have been prepared for the total production from two lines of producing wells that offset two lines of wells that were shut in. Individual well curves for certain of these producing wells have been prepared, which serve to illustrate better the effects noted. These are discussed in detail in the following paragraphs.

The monthly production data for an individual well in this field which offsets a group of shut-in wells are given in Figure 3. When certain wells were shut in on April 15, 1927, the offsetting producing wells showed an immediate increase in the volume of gas produced, a decrease in the oil production, and also a remarkable increase in gallons of natural-gas gasoline recovered from the wet gas. With these three values as a basis several ratios were computed and plotted as given in Figure 3. An analysis of these shows that the gas/oil ratio increased to more than nine times the former average value prior to the shutdown, while the gallons of gasoline per M. cubic feet decreased to approximately two-thirds of its former value, although the gross gallons of gasoline obtained from this well increased about sixfold. Operating conditions remained the same from about January 1, 1926, the well having been placed on the pump at this time.

A study of Figure 3 shows that a considerable volume of gas came into the hole immediately following the shutting-in of the offsetting wells, that this gas had a lower gasoline content than that obtaining prior to April 15,

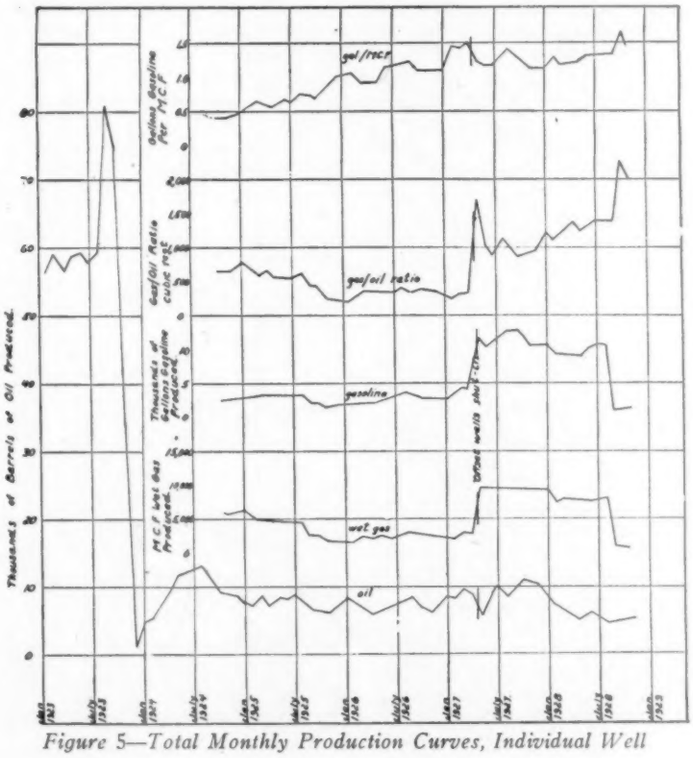



*Figure 5—Total Monthly Production Curves, Individual Well*

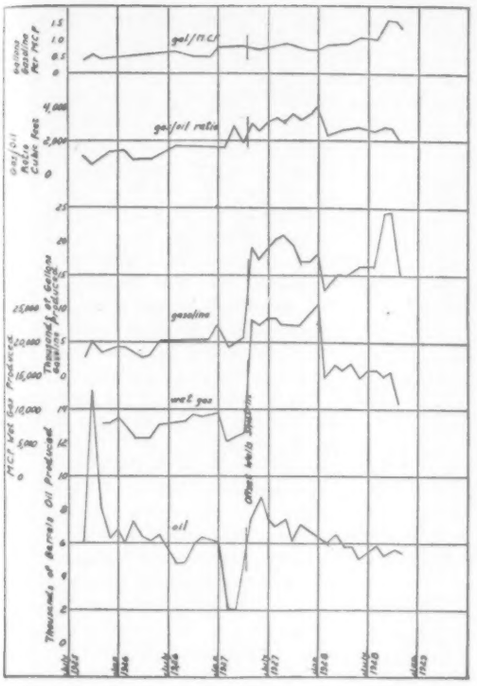



*Figure 6—Monthly Production Curves, Individual Well*

1927, and that this excess volume of gas was by-passing the oil in the productive zone, since the barrels of oil did not increase. The slight decrease in oil production may have been due to the excess gas coming into the hole at its upper levels under a sufficiently greater pressure than that in the lower portions of the well, where the greater portion of the oil is obtained, to exert a back-pressure on these lower sands. The same decrease in oil production could have been obtained in this well by incresing the back-pressure, although it is rather doubtful if the volume of excess gas could have been decreased to any material extent.

Similar production curves for a well in this group and in the same field are given in Figure 4. Certain of the effects mentioned above are emphasized in the case of this individual well. The oil production decreased to a very considerable extent; the gas production increased to about twice its former value; the gallons of gasoline recovered increased about 50 per cent.; the gas/oil ratio increased to about seven times its former average value, while the gallons of gasoline per M. cubic feet of wet gas decreased somewhat, but would average about the same as before over a period of a year. Again a study of this individual well shows that large quantities of wet gas had access to the hole and that the oil production was decreased, probably due to the pressure against the producing oil sands of the incoming gas. The excess volume of wet gas certainly did no work in bringing additional oil into the hole, and may be held to have by-passed the oil back in the sands, due to the subsurface conditions illustrated in Figure 2.

Production curves for a well on the same property operating under the same conditions are given in Figure 5, which show a slightly different effect from shutting in the offset wells than has previously been noted. In this case the oil production for each month increased somewhat and remained above the projected decline curve for about a year following the shutdown; the gas production increased about three times its former value; the gallons of gasoline accompanying the wet gas increased about three times. The gas/oil ratio immediately reached a peak, and the second month following the shutdown settled down to about three times the normal value, while the gallons of gasoline per M. cubic feet of wet gas did not show any undue variation over the year's period.

In the case of this well the excess volume of gas obtained following the shutting-in program probably brought a considerable volume of oil into the hole, although the efficiency of the well was far below its former value due to the increase of the gas-oil ratio. The great increase in the gallons of gasoline recovered showed that the gas was picking up light fractions of the oil through which it passed in about the same ratio as before the shutdown, as brought out by the gallons per M. cubic feet curve.

Curves for another well in this group with very similar production characteristics are given in Figure 6. In this case the oil production was increased by a very appreciable amount and the gas and gasoline production was about quadrupled. The gas/oil ratio increased about one-half, while the gallons per M. cubic feet remained about the same. It is noteworthy that in the months following the shutdown the gas/oil ratio was steadily increasing, while the oil production was just as steadily falling off. The larger volume of gas obtained from this well apparently increased the oil production, but at the expense of efficiency, which became less each month as the volume of gas increased.

Figure 7 illustrates production curves of an individual well in this same group located on the same property as the wells previously discussed. The effect in this instance was slightly different from those previously discussed. The oil production followed the normal decline curve with but little variation; the gas production increased, as might be expected, to about twice its former volume; the gallons of gasoline recovered increased to about twice the former amount. The gas-oil ratio increased from 1500 cubic feet per barrel of oil to an average of about 3400 cubic feet. The gallons of gasoline per M. cubic feet of wet gas remained about the same. As before, a large volume of gas had access to the well, but it did not bring any oil with it, probably by-passing the oil in the sands some distance from this location.

In order to show the effect on a group of producing wells that are offset by an equal number of shut-in wells, curves have been prepared for the several factors which are given in Figure 8. These curves are based on the total monthly production from 17 wells located on a small lease in the Elk Hills oil field. The several individual wells previously discussed are located on this lease. The property had passed its flush stage of production and is now in the period of slow decline.

Figure 8 shows that when the offsetting wells were shut in on April 15, 1927, the monthly oil production steadily increased for several months and then resumed the normal decline. The gas production from the lease about doubled in a very few months, and after the period of a year was still abnormally high. The gasoline production dropped off for about three months following the shut-in and then increased 50 per cent. over the expected volume. The gas/oil ratio

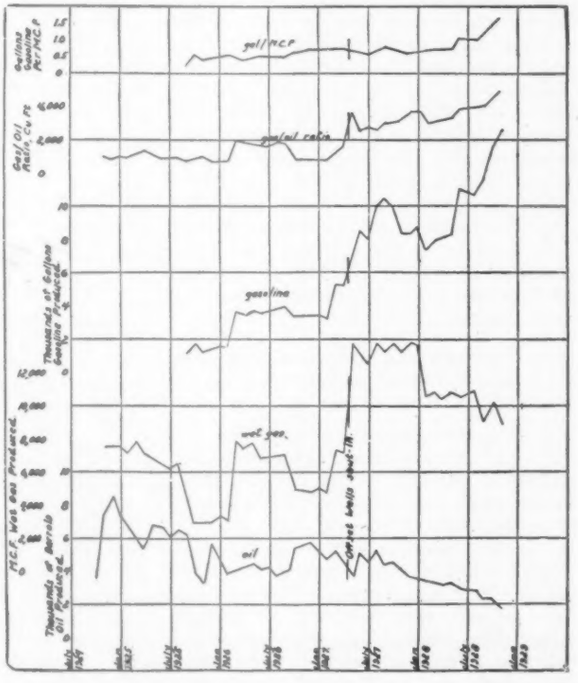



*Figure 7—Total Monthly Production Curves, Individual Well*

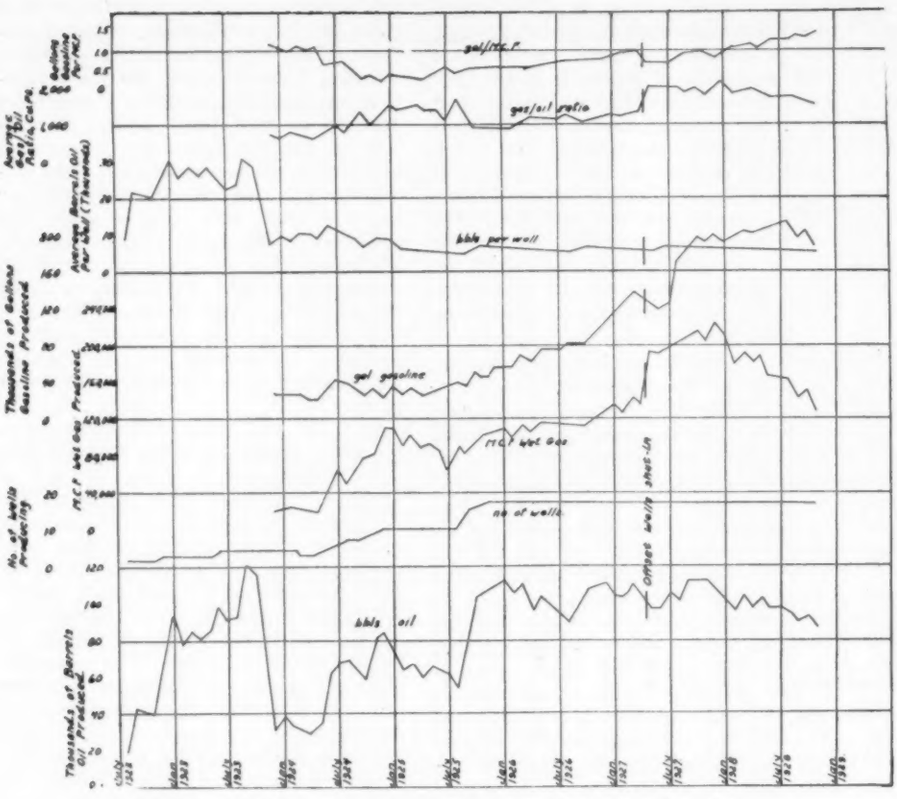



*Figure 8—Total Monthly Production Curves for Lease, 17 Wells*

shows that prior to the shutting-in of the offset wells 1300 cubic feet of gas were produced with each barrel of oil, while immediately following the date of shut in 2000 cubic feet of gas accompanied each barrel of oil. It is well to bear in mind in considering Figure 8 that these curves show the average effect on the 17 wells on this property, and the individual wells previously discussed may vary from the trend of the graphs for the entire property.

In summation, the effect on producing wells of shutting in offsets in areas where the flush period of production is past includes a slight increase in oil production, a very substantial increase in gas and gasoline production, and a large increase in the gas/oil ratio. Although there is an increase in oil produced for a few months, the great increase in the gas/oil ratio shows that this excess oil is obtained at the cost of efficient production.

### Effect of Shutting in in Areas of Low Fluid Levels and Depleted Gas—Group 3

When wells have about reached the limit of commercial production, the force of gravity is the prime mover in bringing the oil into the hole. Such wells produce little if any gas. If wells are shut in on a property placed in this classification, about the only effect resulting is the increase of the drainage area of each well continued on production. There may be a small increase in oil production, but ordinarily there will be no change . In California this type of property in many instances is shut in for as long as several years, to await an increase in the price of oil that will justify continued operation of the lease. For wells in this group it will be sufficient to conclude that little change may be expected in volume of production from individual wells when the offset wells are shut in.

### Probable Source of Excess Gas and Effect on Uultimate Recovery of Oil

Since the ultimate recovery of oil depends to a very material extent on the volume of gas accompanying it, it is of the utmost importance that gas/oil ratios be maintained as low as possible, especially on leases where shut-in wells may be offsetting wells that are continued on production. Changes in production characteristics that may accompany a shuttingin program on leases partially depleted of their oil content have been mentioned in the previous part of this paper. The source of the excess gas, and the channel by which it reaches the producing well, must be considered before any remedial measures may be taken to maintain efficient recovery of oil.

As mentioned under "subsurface conditions" the upper portion of the oil zone is quite often partially depleted of its oil content, the voids in the oil sands now being filled with wet gas. These conditions are illustrated in Figure 2, which shows the upper portion of the individual strata of oil sand filled with oil and gas that have separated into two zones due to the forces of gravity and capillary attraction. The arrows indicate the possible channels by which the wet gas may migrate from one well that is shut in to an adjoining well that is continued on production.

From a consideration of the actual monthly production graphs previously discussed the conclusion is inevitable that a large volume of gas had access to the producing well and that this excess gas did not bring any extra volumes of oil with it, indicating by-passing of the gas. In order for the gas to by-pass there must have been a channel which contained little oil through which the gas could reach the producing well without doing any useful work. While by-passing the oil in the sands the gas picked up the lighter fractions resulting in an increase in the volume of natural-gas gasoline produced by the well. It is not necessary to conclude that the excess gas by-passed the oil in the upper portion of the zone only, for it may also have by-passed it in the lower portions of the zone, reached the shut-in well, migrated vertically to the upper portion of the zone, and then travelled horizontally to the nearby producing well. If the gas had travelled horizontally in the lower portion of the oil zone, it would have forced a certain volumes of oil to the producing well, thus increasing the volume of oil production. In cases where this apparently has occurred the shutting in of a well has increased the drainage area of the offset producing well. However, the very substantial increase in gas production with increases in the gas/oil ratio leads to the conclusion that the gas was by-passing the oil surrounding the shut-in well, and reaching the producing well without doing any appreciable useful work. The low fluid levels, i. e., below the top of the perforations, in the shut-in wells facilitated the migration of the gas from the lower portions of the zone to the upper portion where it travelled horizontally to the offset well.

To recapitulate, the source of the excess gas was from the zone surrounding the shut-in well, and the channels by which the excess gas travelled to the producing well are indicated by arrows in Figure 2, which shows the upper portion of the zone partially depleted of its oil content and now filled with wet gas. Although some of the excess gas may have travelled horizontally through the lower portions of the zone, as shown by the increase in oil production from certain of the wells herein considered, the major portion of the gas performed no useful work in bringing oil to the hole, due to by-passing the oil back in the sands surrounding the shut-in wells. The production of such excess quantities of gas without a corresponding increase in oil recovery indicates that the ultimate recovery of oil from this property has been considerably decreased.

### Suggested Procedure in Shut-in Areas

When wells are shut in, the usual method in recording production data

from the offsetting producing wells should be carefully studied in order to guarantee accurate daily data on the production of oil, of wet gas, and of the gasoline content of the wet gas. The average operator pays insufficient attention to these details of production engineering at the present time.

In areas having a large number of shut-in wells, the daily oil production should be gaged for the individual wells. A 24-hour gas-production test should be obtained for each well, with frequent determinations of the gasoline content of the wet gas. The common practice of taking a test of the gas production once a month, or even at intervals of several months, leads to inaccurate proration of the total gas production from the lease which in turn greatly handicaps the petroleum engineer in his efforts to obtain the largest possible ultimate recovery of oil. The casinghead pressure on the shut-in wells should be noted frequently, and if practical the changes in fluid level should be recorded. In this manner the true reservoir pressure can be obtained, since the fluid head of the oil in the well plus the casinghead pressure gives the pressure at the bottom of the hole.

On those wells from which a large increase in gas production is noted, the fluid content of the several members of the producing zone could be better determined by running a packer on tubing and setting the packer in successive steps below the top of the perforations. This will be successful in those fields where the plastic character of the shale has resulted in the shale's closing in against the perforated casing, thus preventing vertical movements of the oil outside of the casing. From what little data are available at the present time, it is anticipated that the larger portion of the gas, with small volumes of oil, will be found to be coming from the upper portion of the zone, while the lower portion of the hole will be yielding the greater volume of oil, with its own gas/oil ratio.

### Remedies to Prevent Undue Migration of Gas

Due to the partially depleted oil sands and their considerable lateral extent in the average California field, it appears that gas is very liable to migrate from a shut-in area to wells nearby that are continued on production, as shown in certain instances by the several curves herein discussed. Any remedial work undertaken should be planned to prevent the migration of the gas from one zone to another, and also to prevent the gas by-passing the oil.

By producing a well through tubing with a packer set below the top of the perforations the fluid coming into the hole could be limited to that in the lower portion of the hole. In order to determine the proper place to set the packer, careful oil, gas and gasoline data should be available for the individual well. Lowering the packer a short distance at a time below the top of the perforations and noting the casinghead pressure and the daily production volumes of oil, gas and gasoline would very quickly indicate that the portion of the oil zone containing a large amount of gas and little oil is at the upper portion of the perforations, where it may be closed off behind the packer, or better, above the packer. In this way the pressure of the excess gas in the upper portions of the zone, under shut-in conditions, would be kept off the oil sands, and would not prevent the oil from coming into the hole. Also, the oil produced would have its own gas/oil ratio and could be produced much more efficiently. The writer fully realizes the dangers of setting a packer below the top of the perforations in certain California fields, where dangers of sanding-up are considerable. The use of a packer as just described would depend upon individual conditions.

Another method of preventing undue migration of gas would be to fill the shut-in well with mud fluid to a sufficient height to offset the normal reservoir pressure, thus preventing vertical migration of the gas from one stratum to another through the well. Of course, if the sands are so depleted that the use of mud fluid would permanently kill the well, this method could not be used, but if the reservoir pressure is at all substantial, it is anticipated that the well could be cleaned out and returned to production without any deleterious effects due to use of mud. Whereas this method would prevent vertical migration through the well itself, it would not prevent horizontal migrations of excess gas in the upper portions of the zone.

A third method that perhaps would prove feasible would be to produce the well through tubing with packer set below the zone of large gas production, and to close in the casinghead. By noting the building up of the casinghead pressure a reliable estimate might be made of the normal reservoir pressure, considering, of course, that any rise in fluid level above the packer in the annular space between tubing and casing would affect the determination of the true reservoir pressure. Then by injecting relatively small quantities of gas into the casinghead the normal reservoir pressure could be maintained and the gas held in solution in the oil in the upper portion of the zone. The amount so injected would be sufficient to offset the normal reservoir pressure, and would tend to prevent the by-passing of the gas that ordinarily would reach the producing well and be classed as excess gas.

The use of back-pressures to decrease the gas production and also to maintain an efficient gas/oil ratio is very well understood and need not be discussed here. Under the conditions obtaining in the wells previously discussed the increasing of the back-pressure would serve to decrease the volume of excess gas coming into the hole, but it would also place an abnormal back-pressure on the zone which yields the major portion of the oil, probably resulting in a great decrease in oil production, but with little increase in the efficiency of the gas produced.

### Necessity for Future Study

While it is a relatively simple matter to curtail overproduction of oil in fields in their flush period by merely holding high back pressures, etc., it is quite another matter in fields past the flush stage to shut in producing wells and continue offset wells on production, due mainly to the difficulty in preventing migration of gas from one stratum to another and from one well to another. The great decrease in production when shut-in wells are opened up, in some cases considerably below the normal expected decline, may be traced directly to the production of excess gas from adjoining wells and leases during the period of shutdown.

There is a very vital need for more accurate data for the individual wells on the production of oil, gas and gasoline, and also of the casinghead and tubing pressures. The subsurface conditions in the average field may be very well understood from the general viewpoint, but since each well is an individual problem, more accurate data are needed on the character of the formations passed through, especially in the oil zone itself. The use of the core barrel for every foot of the distance drilled through the producing horizon would lead to accurate correlations between wells, and perhaps would indicate the course taken by the oil and gas in their movements between the wells. The careful testing of the fluid content of portions of the oil zone should lead to a better understanding of the production characteristics of each individual stratum penetrated by the ell.

While the writer has suggested several methods to prevent undue migration of gas, these methods have not been tested sufficiently to guarantee results. The development or invention of a packer that could be set below the top of the perforations without sticking the packer or ruining the hole would be of great benefit to the industry.

In the event of curtailment of production in partly depleted areas, and in view of what has occurred on certain leases offset by shut-in wells, it

*(Continued on page 33)*

# High Pressure Methods

By A. J.

TWO disastrous oil-well fires occurred recently at Santa Fe Springs, California. The mining of a tunnel resulted in controlling the first fire. C. W. Eckles' new method of capping the blaze with an upright 10-inch pipe 40 feet high resulted in controlling the second fire. A tunnel constructed at the second fire was never used.

The first fire, George F. Getty's No. 17, burned fiercely for seven weeks. A terrific blow-out during drilling, had occurred when the bit encountered an unknown new sand. Ignition resulted from sparks from striking metal. A total of 20 derricks suspended operations or burned down.

This fire was brought under control by reaching the casing through a tunnel or sloping drift that started from the surface 250 feet away. The mining was undertaken and successfully completed by the engineering department of the General Petroleum Corporation whose leases almost surround the well.

The United States Bureau of Mines kept a mine rescue car at the field to assist in any emergency. Fortunately, no one in the tunnel was injured.

Some delay in driving the tunnel was caused by quicksand. Eventually the casing of the burning well was reached and tapped 40 feet below ground.

When the casing was punctured, the flow of gas and oil inside acted like a steam jet and drew in air. The drill pipe was still in the well, and attempts were made to choke the upward flow by filling the space between drill pipe and casing. Hard wooden balls, solid and hollow aluminum balls, lead and steel wool, rubber packing, asbestos, paper pulp, chopped rope and bundles of hemp, were at different times inserted into the casing through the tunnel. At times this material, which was pulled into the casing and carried upward by the flow, would form a bridge below a tool joint. The fire would partly subside but sand soon would eat out the bridge. None of these attempts were successful.

At the same time a pump was connected to the drilling bar that was bent at right angle over the top of the casing. Neat cement, hemetite mud, and barite mud successively were pumped into the well. The stream of oil and gas immediately discharged them from the well. Later the bar was found to be sand cut clear through on one side near the top of the casing. The drilling bar was removed while the fire was burning.

A large pipe laid in the tunnel then was connected to the well casing. Two large compressor stations were hooked onto this tunnel pipe. They produced a

# On High Pressure Fires

MASON, Jr.

vacuum that sucked the production through the tunnel bypass. For several days considerable production flowed through the tunnel.

Subsequently, a crane hoisted a five-ton hood over the reduced blaze and snuffed it out. Regular fittings were installed at the surface and about a week later the well flowed 5000 barrels of oil and 10 million cubic feet of gas. Finally, the tunnel was filled up and concrete was poured around the outside of the casing to a depth of 60 feet to strengthen it.

### Tunnel At the Second Fire

When the second fire, Belleview Oil Syndicate's Grohs 2, started, neighboring operators called a meeting and decided to tunnel as before. A sub-committee composed of F. F. Hill, manager of field operations for the Union Oil Company, L. B. Little general superintendent of the southern division of the Standard Oil Company of California, and H. T. Maddren, general superintendent of The Texas Company, were appointed as an exective board.

The Belleview well was on a paved highway in the center of the field, at the north edge of the crowded town-lot area. The rigs here, including old pumpers to the Bell sand and the Meyer sand, and wells drilling to the new deep sands, almost touch each other.

Explosives might wreck the hole. Blowing out the blaze by any means such as steam or mud, might result in spraying the congested district with oil.

Union Oil Company undertook the management of controlling the fire and a tunnel was promptly underway. This tunnel at the Belleview fire is shown in the picture and will be described in more detail.

### Preliminary Work

A clam shell performed the first operation of tunneling. Protected by a corrugated iron shield, the clam shell dug a pit for the mouth of the tunnel and piled the dirt in a heap in front of the tunnel entrance. As shown in the picture, the clam shell remained on the job to remove the diggings discharged from the tunnel.

The work in the tunnel, as compared to coal mining or rig building, was relatively safe. Eight men worked in the tunnel on each shift. They received $8 for an eight-hour shift with a $1 bonus if they made six feet of tunnel and an additional bonus of fifty cents a foot for all over six feet.

Two miners at the face dug with Ingersoll-Rand air spades. Behind them two muckers loaded the mine dump-car. Two men timbered the tunnel in accordance

with state regulations, and two men carried in supplies and timbers. There was no difficulty in obtaining men for this work.

### Method of Mining

Benefiting by the experience gained at the previous tunnel the mining went ahead steadily. Digging was in soft clay with some sand, and at times the sand would cave at the face and delay progress.

When the mine car was filled, an electric buzzer signaled a man outside operating a Fordson Tractor hoist. The car on narrow gage rails then was dragged out by a wire line to the pit at the mouth and dumped.

The clam shell kept the pit clean.

As close as practicable behind the miners, the tunnel was timbered, making the complete size 5½ feet wide by 6½ feet high.

A blower pipe carrying fresh air to the workers extended along the roof. Electric lights illuminated the interior. The exterior at night was brilliantly lighted by the fire itself.

### Drawbacks of Digging a Tunnel

Tunneling is slow and expensive. It can accomplish the work but it takes time and requires a lot of men. Besides the eight men in the tunnel there must be a gang of helpers outside, including electricians, surveyors, men cutting timbers to size and removing excavated dirt, truck drivers, bosses, etc. Tunneling requires the continual operation of a hoist, a clam shell, a blower, and a compressor. Moreover, after extinguishing the fire the work is not over. To fill the tunnel, level the mounds of dirt, remove the pipes, wiring machinery, etc. takes several days.

### The Eckles "Funnel"

The tunnel had reached its goal, and a chamber 14 feet square by 12 feet high was excavated around the well casing, when the fire was put out by another means.

C. W. Eckles, construction engineer, with Union Oil Company, invented an ingenious method of controlling the blaze. Work on Mr. Eckles scheme had been begun on the surface and was completed, while the tunnel was in progress.

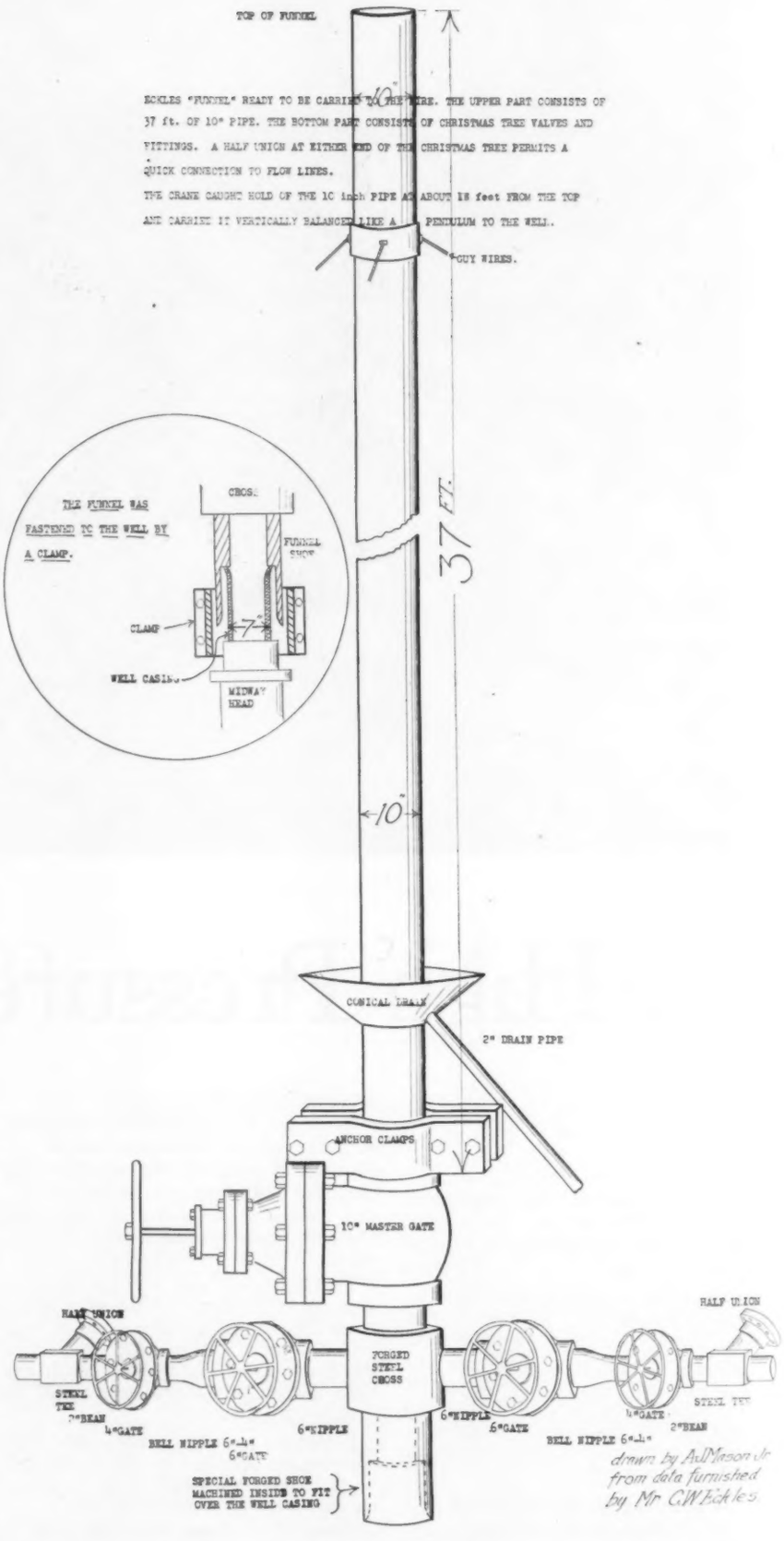
A crane carried a 40-foot 10-inch pipe with Christmas tree fittings at the bottom, and set this pipe upright over the fire. The crane held the pipe vertically balanced and slowly swung it back and forth over the hole to center it. When gas and fire issued with force from the top, the pipe was dropped in place. Men in asbestos suits held guy wires that were attached to the top of the pipe.

This pipe acted as an inverted smoke stack or chimney with the flame on top. The fire now looked like an enormous gas jet on a long stem.

Mr. Eckles superintended the placing of the funnel. He predicted that, with the fire thus raised out of the way, the well could be reached and controlled.

When the funnel was first announced, many thought it was impossible. It was argued that the white-hot fire like an acetylene torch, would melt any material brought near. However the installation of the funnel proceeded without a hitch.

Conflagration around the base of the




*The Eckles Funnel*

funnel did not go out at once because the grounde and cellar were soaked with oil. A wavering blue flame five feet high persisted for several feet around. Men directed streams of water on this minor blaze for a day and eventually quenched it. Two airplane engines with propellors, mounted on trucks supplied cool breezes for the men; but these were not absolutely essential. The spot directly below the flame is cooler than the immediate surrounding area.

Finally workmen fastened the funnel to the casing and laid flow lines. Then the fire was extinguished just like a gas light in a house is turned out.

The total time of controlling the fire with the funnel was two weeks. The well under control flowed 2600 barrels of oil and 30 million cubic feet of gas, four days later increasing to 3500 barrels of oil.

### Further Details of the Eckles Funnel

Before placing the funnel, men in asbestos suits with the aid of drag lines, cleared away the crumpled steel derrick, rotary table, and all debris, from the casing head. The asbestos suits were bought by wire in New York City from the Johns-Manville Company and shipped to California by air-mail.

A 20-foot extension made out of two 12-inch I-beams was attached to the end of the crane arm. The crane was covered with asbestos sheets, leaving only a peephole for the operator.

Mr. Eckles' method of fastening the funnel to the well casing is as follows: A clamp, made on the order of a casing clamp in two halves, was bolted together at the junction of the funnel and well casing. This clamp had been machined to fit and contained packing rings like a packing head. When the two halves of the clamp were bolted together, the packing rings packed off the connection. Subsequently, the welder who welded the clamp to the funnel and also to the casing, was not bothered by leaking oil and gas.

A conical drain, clamped to the funnel and piped to one side, protected the welder from oil dripping from the fire above. This drain can be seen in the photograph and sketch. It appears to the writer that, if strong anchorage can be obtained in the cellar, a funnel may be attached securely to the casing of a burning well without welding.

Only 16 inches of the seven-inch well casing was exposed. The casing as shown in cross-section in the insert on the sketch, was flared out at the top to eight inches, making an awkward looking shape to connect.

Had the well originally been equipped with a master gate, the fire possibly could have been extinguished as soon as the funnel lifted the blaze out of the way.

## *The Effect on Producing Wells of Shutting in the Offset Wells*

*(Continued from page 29)*

would be well to consider a repressuring program by use of certain of the shut-in wells, which perhaps could lead to a smaller number of wells being continued on production. In this way the ultimate recovery of oil from a field should not be endangered by the production of excess gas from producing wells offset by shut-in wells. The increased production obtained by repressuring could be obtained from fewer wells, although the total monthly production of oil from the field or lease as a whole would be materially decreased. It appears from studies at the present time that the damage to the producing measures is caused by the wells that are continued on production; hence any method that yields the desired volume of oil each day, but results in a smaller number of wells being on production, should minimize the damage to ultimate recovery of oil due to the migration of gas through the partly drained oil measures.

### Conclusions

1. Subsurface conditions in the average California oil field that is partly depleted of its oil and gas content, i. e., past the flush stage of production, show that the upper portion of the zone contains mainly wet gas, while the oil is found in the lower portions of the measures.

2. If wells in the flush stage of production are shut in, the offsetting producing wells will have a larger drainage area. The production will vary according to size of this area, the volume increasing somewhat, the gas/oil ratios remaining the same or even decreasing.

3. In areas where the wells are in the pumping stage and where the fluid level is low, i. e., below the top of the perforations, the gas production still being of considerable amount, shutting in of wells results for the adjoining wells in an increase in oil production, a great increase in gas and gasoline production, and the increase in gas/oil ratios to the maximum of inefficiency.

4. In areas where gravity is the principal force in bringing oil to the well little change is noted by shutting in wells.

5. The great increase in gas production in areas discussed under group 2 is due to the gas migrating from strata surrounding the shut-in well and travelling to the producing well, by-passing the oil on the way, and bringing little additional oil to the hole.

6. The net result of producing excess quantities of gas under these conditions is to curtail seriously the ultimate recovery of oil from the shut-in wells, and also from the field.

7. Accurate daily determinations of oil, gas and gasoline production from individual wells will very quickly show any sudden increase in gas production, under these conditions, indicating the necessity for immediate action.

8. The use of mud fluid in the shut-in well would tend to prevent vertical migration of the gas from one stratum to another through the medium of the connecting passage established by a well. Producing a well through tubing with packer set below the top of the perforations would tend to prevent horizontal migration of the oil, since the pressure could be maintained on the upper portion of the zone.

9. In some cases the maintenance of sufficient back-pressure on the producing well would tend to prevent the production of excess quantities of gas, although it would probably put an abnormal back-pressure on the oil sands in the lower portion of the hole.

10. When it is necessary to curtail production by shutting in wells, a repressuring program should be considered, planned to prevent undue migration of the gas and to increase the future recovery of oil from the shut-in wells when they are again put on production.

# Plan to Curtail Winkler Output Dropped

## New pipe line connections afford some relief; proration regulations generally observed in West Texas

By H. H. KING
*Staff Representative*

FORT WORTH, Texas.—Strong opposition voiced by a number of major and independent producers in Winkler County against the proposed 50,000-barrel reduction in allowable daily production for the county has resulted in the movement being dropped for the time being. Acting on the suggestion of a few producers, R. A. Alsobrook, umpire, and E. A. Landreth, chairman of the Winkler County proration advisory committee, dispatched letters to each producer recently outlining their views on the seriousness of the water situation in the Hendrick field proper, and each producer was requested to vote by wire or mail regarding the lowering of the daily output to 125,000 barrels from the present allowance of 175,000 barrels daily. The proration advisory committee met here February 27 to take action on the movement, but decided to drop the plan after a brief session.

Chairman Landreth, who is president of the Landreth Production Corporation and a staunch supporter of oil conservation methods, tendered his resignation from the Winkler County proration committee, owing to his personal affairs requiring most of his time, while the recent sale of his producing properties to The Texas Company reduced his interest in Winkler County to royalty holdings only. Pete W. Woodruff, vice-president of the Southern Crude Oil Purchasing Company, which controls the largest production in Winkler County, was elected temporary chairman to succeed Mr. Landreth, and a meeting will be held by operators March 15 to elect a permanent chairman. L. E. Barrows, manager of the Central Texas division of The Texas Company, was elected a member of the advisory committee to fill the vacancy, as Mr. Woodruff was already on the committee.

Principal objections raised to the cut in Winkler County allowable production were based on the failure of a large percentage of the wells in the Hendrick field to continue their natural flow should additional back pressure be applied. Nearly all of the 540 producing wells in Winkler County are making cut oil, while recent water reports compiled credit all wells in the county showing an average of about 45 per cent. water and b.s., and to reach this high average many wells are making mostly water. Application of a reasonable volume of back pressure to all wells has been greatly beneficial to the producing companies and individuals, as the natural flowing life of wells has been greatly prolonged, but operators contend too much pinching of wells will flood the wells with water.

Winkler County's 540 wells were credited with an estimated daily potential of 2,412,447 barrels at the close of February, while the allowable production is 175,000 barrels daily, or an average of 324 barrels daily per well. The individual wells are producing 7.25 per cent of their estimated daily potential flow under the 175,000-barrel allowance. However, the above potential production estimate is known to be an artificial figure in comparison to what the wells would produce should restrictions be removed for 24 hours or more.

Although the water situation in Winkler County was the basis for the move to reduce the daily production allowance, some of the producers were also having difficulty in marketing their current production because of failure to renew expiring contracts, and instant relief would come from curtailing the output of all wells. However, this marketing problem has been practically cleared up within the past 10 days by new connections taken on by Humble Pipe Line Company, Atlantic Pipe Line Company, Magnolia Pipe Line Company, Pasotex Pipe Line Company, and a 1,500,000-barrel crude contract made by the Louisiana Oil Refining Corporation.

Contrary to frequent rumors, proration enforcement is being adhered to in Winkler County, Yates field and the Howard-Glasscock County deep pay area, with very few exceptions, and only two producing units have enlisted the aid of the courts in obtaining relief from the Texas Railroad Commission's proration rules. These exceptions are the Murchison Oil Company (Texas State Oil Company) and Cranfill Brothers Oil Company, partnership operators, and the Bankers Producing Corporation. These concerns are in possession of small tracts in the Hendrick field, and obtained temporary injunctions, but in order to locate a market for their production sacrifice prices were made on contracts. Owners of wells, offsetting these producers flowing open, have been allowed to open up also, so little protest is made by other producers in the field.

The Yates field has some small properties producing in excess of the earned quota under proration rules, but such exceptions have been duly authorized by the proration body and commission. The market outlet for Yates oil is restricted to that provided by Humble Pipe Line Company, Mid-Kansas Oil & Gas Company, Shell Pipe Line Company, and Gulf Pipe Line Company, and these concerns are not encouraging small operators to defy proration, while in the Winkler County area the numerous lines leading to nearby skimming plants and tank car racks permit concerns that avoid proration rules to locate a ready market when reduced prices are accepted for the oil.

The deep pay area in the Howard-Glasscock County district is strictly a pumping proposition, and actual production restrictions have been comparatively small, although proration rules prevent the swabbing, or use of air-gas lift to boost the daily recovery. The policy in this district heretofore has been to boost the daily allowance when operators found themselves able to pump more oil than the rules authorized.

# Transcontinental Trans-Texas Line Waiting Court Order

FORT WORTH, Texas—Transcontinental Oil Company completed purchase of the smallest of two adjoining tracts of land at Texas City, Texas, on March 1, owing to expiration of option, but will not proceed with construction of a proposed trunk line from West Texas to Texas City. Options were taken more than a year ago on a proposed refinery site on the west side of Texas City, and that held on a 265-acre tract will not expire until next August.

A trunk line from the Yates field to a refinery at the Gulf Coast points is to be built by Transcontinental Oil Company, provided the United States Supreme Court renders a decision favorable to the company in its suit against Mid-Kanses Oil & Gas Company for the right to market one-half of the oil being produced on a 50-50 basis in the Yates field. Transcontinental Oil Company lost out in a federal court plea in Fort Worth, and was denied a new hearing on January 12, 1929, by the United States Court of Appeals at New Orleans.

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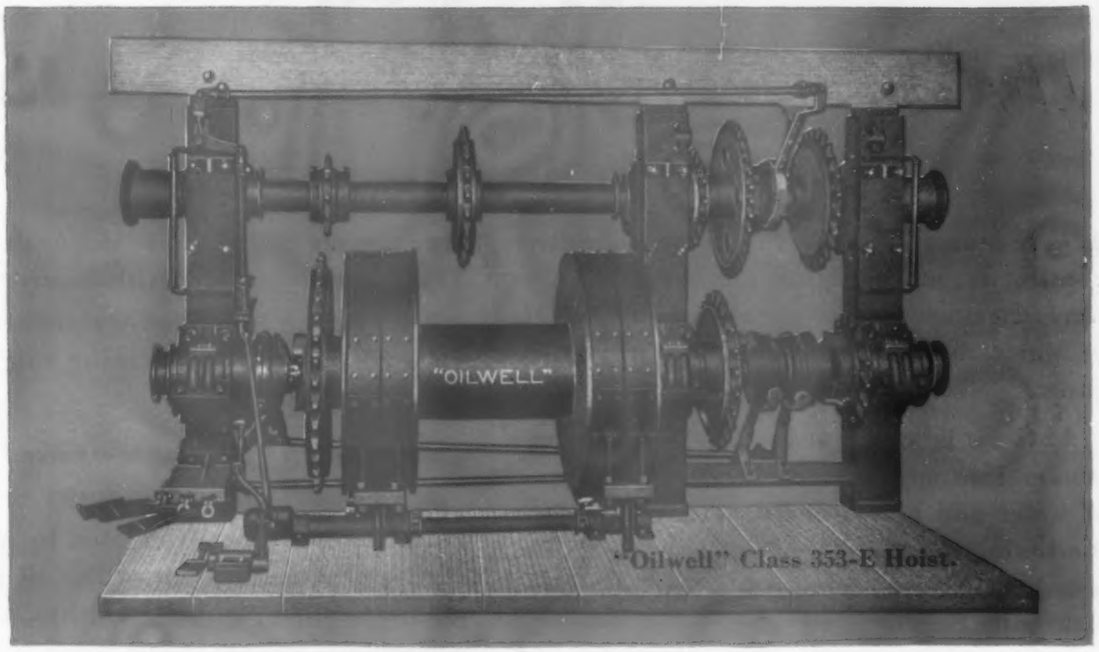

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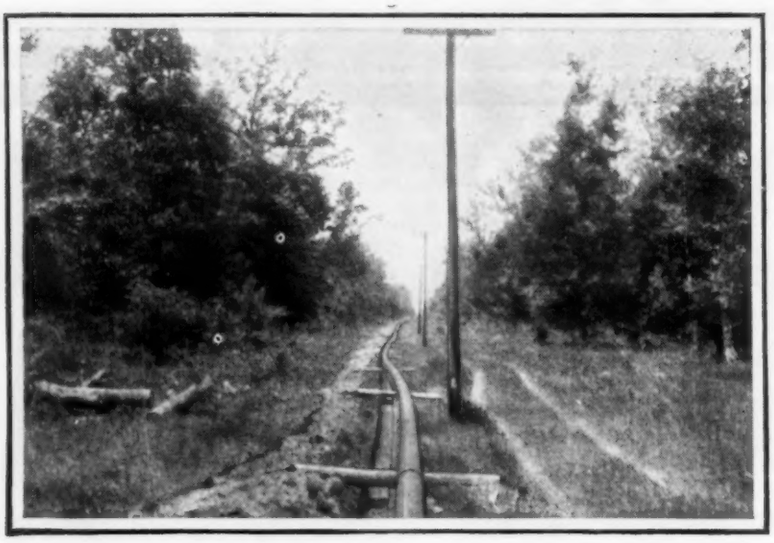

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J. KENT RIDLEY, *Managing Editor*

NEW YORK: Room 408-409, 250 Park Avenue, R. P. Swinsky, Manager.

PITTSBURGH: 510 Park Bldg., W. W. Pigue, Manager.

CHICAGO: Room 520, 624 S. Michigan Ave., O. R. Waller, Manager.

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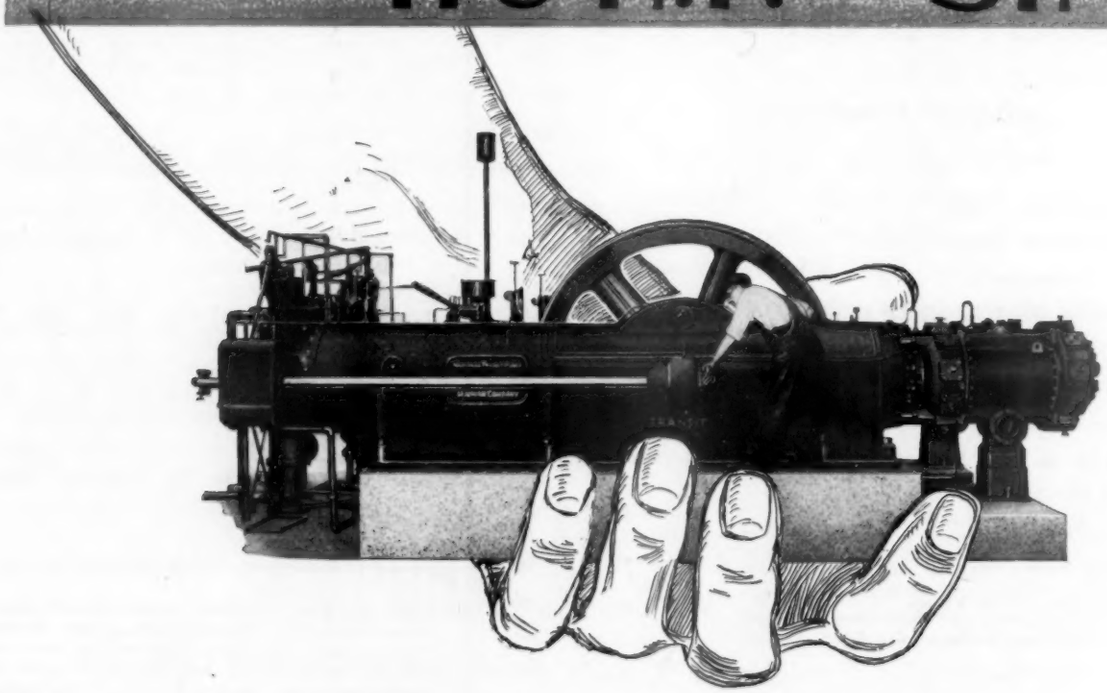

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# Markets--Production--Crude Prices

H. J. STRUTH, *Staff Economist, Houston, Texas*

# Production Gain Slackened by California Decline

A NUMBER of cross-currents in the production situation last week presented a rather confusing picture. For the first time in a good many weeks, California registered a decline amounting to 6400 barrels, which was directly attributed to a decrease of 5000 barrels a day at Santa Fe Springs and 1500 barrels at Long Beach. This is not considered as a definite sign that California's production curve is headed downward, in fact, late advices indicate that considerable drilling activity is under way in the O'Connell zone which may result in further sharp increases in the near future. While a decline is looked for at Santa Fe Springs, it is not thought likely that last week's results signify that the peak of that field has been reached. In other words, California continues to cast a shadow across the petroleum horizon that will require more than a mere dip in the production curve to restore confidence over the immediate future.

### Oklahoma Gains

Oklahoma, in the face of increasing popularity of the Sunday shut-down idea, registered a gain of 9600 barrels daily. In fact, four of the flush pools, Bowlegs, Earlsboro, St. Louis and Mission registered a combined gain of 13,150 barrels. Minor declines in other pools of the state brought the net gain down to 9600 barrels. The fact that Oklahoma's production was unexpectedly and materially boosted last week, in the face of determined efforts at proration and at a time when quite a number of the larger companies are observing a Sunday shut-down, indicates how easily production can get out of bounds. This alone demonstrates the precarious situation that confronts the entire industry and proves that diligent effort and supervision is decidedly necessary if results are to be accomplished.

Texas contributed a gain of 4800 barrels last week, most of which is credited to Winkler and Pecos Counties, in West Texas, and Salt Flat in Southwest Texas. This is somewhat of an improvement compared with the preceding week when the gain for the state totaled 21,750 barrels. Efforts to control production in West Texas are becoming more in evidence. Undoubtedly, some constructive steps will be taken there at an early date.

On the whole, the situation last week presents a rather complex affair. Under existing conditions it would have been natural to expect at least a slight decline in Oklahoma and a further gain in California. The effect of the Sunday shutdown in Oklahoma was expected to more than offset any gain registered in Mission. However, while Mission showed a gain of 1850 barrels, St. Louis, Earlsboro, and Bowlegs also contributed gains of 5200, 3800 and 2300 barrels, respectively. These gains are not considered to indicate lack of control at this time, as it is confidently anticipated that all of the above and other fields will soon be under full regulation of the State Proration Committee. In California, the situation is being further complicated by the rush of operators to exploit the possibilities of the O'Connell zone and a rather poor situation as regards refined oil prices. Thus, it is evident that it is too much to expect any sign of immediate improvement in that area. Undoubtedly, if Oklahoma had succeeded in showing a slight decline in daily average production last week, the national production would have registered a net decline of at least 2500 barrels a day. As it turned out, the national output aggregated a new high level of 2,702,900 barrels which was an increase over the preceding week of 8750 barrels.

The only hopeful sign now is apparent determination of the industry's leaders to promulgate a curtailment plan that will insure absolute results throughout the United States. At least, judging from the action recently taken by E. B. Reeser, president of the American Petroleum Institute, it is evident that talk is being superceded by long-looked-for action. Entering the third month of the year, production thus far is in excess of requirements to the extent of about 9,500,000 barrels. Recently, it was pointed out by the writer that the maximum demand this year would not exceed 2,500,000 barrels daily. During January we exceeded this quota by 135,000 barrels and last month by about 185,000 barrels. Every day that production exceeds the prescribed limits makes it just that much more difficult to attain equilibrium. It is hoped that Mr. Reeser's plan for nation-wide curtailment will meet with the full cooperation of all of the large companies at least. Perhaps the chief reason for delay in the past has been the fear that the "little fellow" would not fall in line and would benefit by curtailment efforts of the large companies. It is confidently believed, however, that any constructive action taken by the larger companies will find all concerned ready to abide by any reasonable plan that will prove of benefit to the entire industry.

### Oklahoma

New production in the Mission district of Greater Seminole has held Oklahoma crude production practically on a level with the recovery previous to the inauguration of proration and Sunday shutdown. The curtailment of production through proration and the Sunday shutdown plan has just about offset the Mission initial output. At present time approximately 60,000 barrels per day is still going into storage in Oklahoma. However, this is expected to be materially reduced at once, since Mission came under the shutdown plan on March 1, and will be prorated in proportion with the other fields. It is hoped to shortly have the state's production down to market requirements.

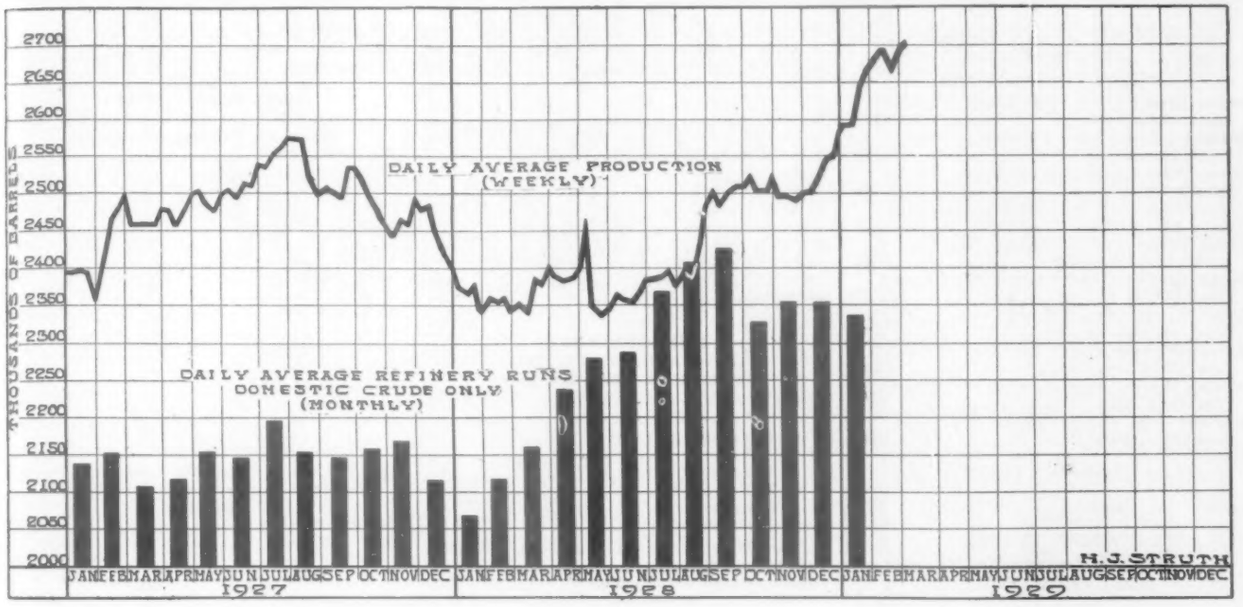
The Oklahoma crude market situation is somewhat brighter at this time than a short time ago.

No wells will be completed in the Oklahoma City field until late in April and it will be later before enough are in to produce a large amount of oil.

Operators in Oklahoma are gravely concerned with conditions elsewhere, particularly in California and Texas, and which are hurting Oklahoma's market outlet to a large extent. They are of the opinion that if a nation-wide conservation program can be enforced, somewhat similar to the one they are using, that the industry will shortly see better conditions in a reduction of runs to storage.

U. S. Motor gasoline in Group 3 was tightening up the past week. Average sale prices were ranging from 6¾ to 7 cents

# DOMESTIC PRODUCTION AND REFINERY RUNS




with indications that the price will shortly have a low of 7 cents. The larger refineries in many instances are already asking slightly above 7 cents per gallon. The higher gravity gasolines are just beginning to feel the effects of the hike in the U. S. Motor. Sixty—sixty-two, 400 end point, is around 7⅜ cents per gallon with 64-66, 375 end point, from 7¾ to 8 cents a gallon.

Natural gasolines continue to be easy with AA grade around 7¼ cents a gallon and other grades priced in proportion.

Kerosene continues to be strong and looks good; 41-43 water white grade is 5½ cents and is moving toward 5¾ cents a gallon.

Distillates and gas oils continue to be very scarce.

### California

The drop in crude production, expected after February 15, has failed to materialize and it now looks as if the decline, when it does set in, will be slower than anticipated. With a state total considerably above 800,000 barrels, the situation looks none too rosy, even in the face of a slow decline. The increase has been caused almost altogether by light oil and this very important commodity is beginning to float around on all sides, not a small part of it going into storage.

Upon Santa Fe Springs hinges the fate of the industry during the next few months. If this field declines steadily, if not rapidly, the crude ship may weather the storm. If the new deep sands prove especially productive, a genuine and prolonged surplus will exist and crude prices will fall. The O'Connell zone proved a disappointment in the discovery well, but there is reason to believe that the trouble was caused from a poor shut-off. Cores showed a very high percentage of oil and it is believed that the water is coming from above the zone. Thirty wells are now drilling for the formation and if successful, production will soar to new heights. Rapid development of the zone could add another 100,000 barrels to the present 200,000 barrels within 60 days.

The movement of fuel oil is not satisfactory, with a tendency toward lower prices in evidence. The posted price remained at 85 cents, but actual deliveries were made at 20 cents below the posted price.

The gasoline price war has developed into a tooth-and-nail struggle for both retail and wholesale business. It is impossible to strike an average on either the tank wagon or service station price. Large companies contend that the "standard" tank wagon price in Los Angeles is 12½ cents and the service station price 16½ cents. The actual service station price ranges from nine to 11½ cents, how-

(Continued on page 46)

## DETAILS OF CRITICAL FIELDS

| Pool | Wells Completed | Total Initial Production | Initial Per Well | Number Producing Wells | Daily Production Barrels | Daily Production Per Well | Rigs Up | Wells Drilling |
|---|---|---|---|---|---|---|---|---|
| **WEST TEXAS—** | | | | | | | | |
| Hendrick | 541 | 2,910,165 | 5,379 | 550 | 170,425 | 310[1] | 7 | 33 |
| Church & Fields | 189 | 203,465 | 1,077 | 187 | 27,915 | 149 | . | . |
| Gulf - McElroy | 70 | 56,225 | 803 | 70 | 12,675 | 181 | . | 2 |
| Yates | 296 | 1,977,360 | 6,680 | 296 | 84,585 | 286[1] | 3 | 8 |
| Totals | 1,096 | 5,147,215 | 4,696 | 1,103 | 295,600 | 268 | 10 | 43 |
| **TEXAS PANHANDLE—** | | | | | | | | |
| Hutchinson Co. | 1,148 | 549,835 | 479 | 1,022 | 26,930 | 26 | 3 | 20 |
| Gray County | 330 | 136,060 | 412 | 320 | 21.060 | 66 | 9 | 39 |
| Carson County | 184 | 60,445 | 329 | 160 | 5,770 | 36 | 3 | 16 |
| Wheeler County | 44 | 14,645 | 333 | 35 | 760 | 22 | 5 | 15 |
| Moore County | 11 | 6,145 | 559 | 9 | 1,655 | 184 | 5 | 8 |
| Totals | 1,717 | 767,130 | 447 | 1,546 | 56,175 | 36 | 25 | 98 |
| **OKLAHOMA—** | | | | | | | | |
| Seminole | 1,724 | 2,197,977 | 1,274 | 1,445 | 307,118[3] | 212 | 30 | 193 |
| St. Louis | 372 | 378,835 | 1,018 | 310 | 108,129[4] | 348 | 7 | 71 |
| **CALIFORNIA—** | | | | | | | | |
| Santa Fe Springs[2] | 128 | 429,500 | 3,355 | 108 | 176,000 | 1,629 | 30 | 172 |

[1]Production partially pinched.
[2]Includes deep production only. For field total add 226 wells and 25,000 barrels.
[3]Partially prorated.
[4]Prorated.

# CRUDE OIL PRICE QUOTATIONS

*(Revised to March 5, 1929)*

## CURRENT POSTINGS

### EASTERN STATES

(Effective February 15, 1929)

| | |
|---|---|
| Penna Grade Oil in New York Transit Lines (New York) | $4.10 |
| Brandford District Oil in National Transit Lines (Pennsylvania) | 4.10 |
| Penna Grade Oil in National Transit Lines (Pennsylvania) | 4.00 |
| Penna Crude Oil in Southwest Pennsylvania Lines (West Virginia) | 4.00 |
| Penna Grade Oil in Eureka Pipe Line Lines (Pennsylvania) | 3.90 |
| Penna Grade Oil in Buckeye Pipe Line Lines (Ohio) | 3.85 |
| Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia) | 1.45 |
| Corning 35-cent Grade Oil in Buckeye Pipe Line Co.'s lines | 1.80 |
| Corning 25-cent Grade Oil in Buckeye Pipe Line Co.'s lines | 1.75 |
| Somerset Oil in Cumberland Pipe Line lines (Kentucky) | 1.60 |
| Ragland Grade Oil in Cumberland Pipe Line lines (Kentucky) (Effective Jan. 29, 1929) | .60 |
| Keister (Pennsylvania) | 1.20 |

### CENTRAL STATES

(Effective January 25, 1929)

Posted by Ohio Oil Co.

| | |
|---|---|
| Illinois | 1.45 |
| Indiana | 1.27 |
| Lima | 1.50 |
| Plymouth | 1.18 |
| Princeton | 1.45 |
| Waterloo | 1.25 |
| Wooster | 1.62 |

### WESTERN KENTUCKY

(Effective January 25, 1929)

| | |
|---|---|
| All grades | 1.53 |

### MID-CONTINENT

(Effective January 25, 1929)

**Carter Oil Company, Gulf Pipe Line Company, Sinclair Pipe Line Company, Prairie Oil and Gas Company and The Texas Company.**

| | |
|---|---|
| 25 to 25.9gravity | .66 |
| 26 to 26.9 gravity | .72 |
| 27 to 27.9 gravity | .78 |
| 28 to 28.9 gravity | .84 |
| 29 to 29.9 gravity | .90 |
| 30 to 30.9 gravity | .96 |
| 31 to 31.9 gravity | 1.02 |
| 32 to 32.9 gravity | 1.08 |
| 33 to 33.9 gravity | 1.11 |
| 34 to 34.9 gravity | 1.14 |
| 35 to 35.9 gravity | 1.17 |
| 36 to 36.9 gravity | 1.20 |
| 37 to 37.9 gravity | 1.23 |
| 38 to 38.9 gravity | 1.26 |
| 39 to 39.9 gravity | 1.29 |
| 40 to 40.9 gravity | 1.32 |
| 41 to 41.9 gravity | 1.35 |
| 42 to 42.9 gravity | 1.38 |
| 43 to 43.9 gravity | 1.41 |
| 44 and above | 1.44 |

### MID-CONTINENT

(Effective January 24, 1929)

**Magnolia Petroleum Company**

| | |
|---|---|
| Under 26 | .60 |
| 26 to 26.9 gravity | .65 |
| 27 to 27.9 gravity | .70 |
| 28 to 28.9 gravity | .75 |
| 29 to 29.9 gravity | .80 |
| 30 to 30.9 gravity | .90 |
| 31 to 31.9 gravity | 1.00 |
| 32 to 32.9 gravity | 1.08 |

From 33 to 44 gravity and above, Magnolia Petroleum Company prices are the same as those of Carter Oil Company.

### PANHANDLE

(Effective January 24, 1929)

**GRAY COUNTY**

**(Humble Oil & Refining Company, Magnolia Petroleum Company, Gulf Pipe Line Company and Sinclair Pipe Line Company).**

| | |
|---|---|
| Below 29 gravity | .69 |
| 29 to 29.9 gravity | .75 |
| 30 to 30.9 gravity | .81 |
| 31 to 31.9 gravity | .87 |
| 32 to 32.9 gravity | .93 |
| 33 to 33.9 gravity | .96 |
| 34 to 34.9 gravity | .99 |
| 35 to 35.9 gravity | 1.02 |
| 36 to 36.9 gravity | 1.05 |
| 37 to 37.9 gravity | 1.08 |
| 38 to 38.9 gravity | 1.11 |
| 39 to 39.9 gravity | 1.14 |
| 40 to 40.9 gravity | 1.17 |
| 41 to 41.9 gravity | 1.41 |
| 42 to 42.9 gravity | 1.46 |
| 43 to 43.9 gravity | 1.51 |
| 44 and above | 1.56 |

**WHEELER COUNTY**

**(Humble Oil and Refining Company and Magnolia Petroleum Company)**

| | |
|---|---|
| Below 30 gravity | .70 |
| 30 to 30.9 gravity | .76 |
| 31 to 31.9 gravity | .82 |
| 32 to 32.9 gravity | .88 |
| 33 to 33.9 gravity | .91 |
| 34 to 34.9 gravity | .94 |
| 35 to 35.9 gravity | .97 |
| 36 to 36.9 gravity | 1.00 |
| 37 to 37.9 gravity | 1.03 |
| 38 to 38.9 gravity | 1.06 |
| 39 to 39.9 gravity | 1.09 |
| 40 to 40.9 gravity | 1.12 |
| 41 to 41.9 gravity | 1.15 |
| 42 to 42.9 gravity | 1.18 |
| 43 to 43.9 gravity | 1.21 |
| 44 and above | 1.24 |

**CARSON-HUTCHINSON COUNTIES**

**(Humble Oil and Refining Company, Magnolia Petroleum Company and Gulf Pipe Line Company)**

| | |
|---|---|
| Below 32 gravity | .72 |
| 32 to 32.9 gravity | .78 |
| 33 to 33.9 gravity | .81 |
| 34 to 34.9 gravity | .84 |
| 35 to 35.9 gravity | .87 |
| 36 to 36.9 gravity | .90 |
| 37 to 37.9 gravity | .93 |
| 38 to 38.9 gravity | .96 |
| 39 to 39.9 gravity | .99 |
| 40 to 40.9 gravity | 1.02 |
| 41 to 41.9 gravity | 1.05 |
| 42 to 42.9 gravity | 1.08 |
| 43 to 43.9 gravity | 1.11 |
| 44 and above | 1.14 |

### WEST TEXAS

**(Humble, Gulf, Magnolia, The Marland Company and Southern Crude Oil Purchasing Company)***

| | |
|---|---|
| Crane-Upton, Crockett, Pecos and Winkler Counties, all grades | .65 |

*Gulf does not post in Winkler County; Magnolia posts in Crane, Upton and Winkler Counties. The Marland Company posts only in Crane, Upton and Crockett Counties; Southern posts only in Crane, Upton and Winkler Counties.

## CALIFORNIA CRUDE OIL PRICES AT THE WELL

**(EFFECTIVE JANUARY 18, 1929)**

**Following are the current prices offered by Standard Oil Company for crude oil at the well: (Price per barrel of 42 gallons in fields indicated)**

| Gravity | Ventura* | Signal Hill | Alamitos Heights-Seal Beach | Huntington Beach | Inglewood | Olinda-Brea Canon | Athens-Rosecrans Dominguez | Elwood Terrace | Torrance | Richfield | Whittier La Habra | Montebello | Coyote Hills | Santa Fe Springs | Newhall McKittrick Kern River | Midway-Sunset Elk Hills | Buena Vista Hills | Lost Hills | Coalinga | Wheeler Ridge |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14-14.9 | $ .85 | $ .70 | $ .70 | $ .70 | $ .70 | $ .70 | $ .. | $ .. | $ .70 | $ .70 | $ .70 | $ .70 | $ .70 | .. | $ .50 | $ .50 | $ .50 | $ .50 | $ .50 | $ .50 |
| 15-15.9 | .85 | .70 | .70 | .70 | .70 | .70 | .. | .. | .70 | .70 | .70 | .70 | .70 | .. | .50 | .50 | .50 | .50 | .50 | .50 |
| 16-16.9 | .85 | .70 | .70 | .70 | .70 | .70 | .. | .. | .70 | .70 | .70 | .70 | .70 | .. | .50 | .50 | .50 | .50 | .50 | .50 |
| 17-17.9 | .85 | .70 | .70 | .70 | .70 | .70 | .. | .. | .70 | .70 | .70 | .70 | .70 | .. | .50 | .50 | .50 | .50 | .50 | .50 |
| 18-18.9 | .85 | .75 | .75 | .75 | .75 | .75 | .. | .. | .75 | .75 | .75 | .70 | .75 | .. | .50 | .56 | .56 | .56 | .56 | .56 |
| 19-19.9 | .85 | .80 | .80 | .80 | .80 | .80 | .. | .. | .80 | .80 | .80 | .75 | .80 | .. | .50 | .62 | .62 | .62 | .62 | .62 |
| 20-20.9 | .85 | .85 | .85 | .85 | .85 | .85 | .. | .. | .85 | .85 | .84 | .80 | .84 | .. | .. | .68 | .68 | .68 | .68 | .68 |
| 21-21.9 | .86 | .89 | .89 | .89 | .89 | .89 | .. | .. | .89 | .89 | .88 | .85 | .88 | .89 | .. | .74 | .74 | .74 | .74 | .74 |
| 22-22.9 | .87 | .93 | .93 | .93 | .93 | .93 | .. | .. | .93 | .93 | .91 | .90 | .91 | .92 | .. | .80 | .80 | .80 | .80 | .80 |
| 23-23.9 | .90 | .97 | .97 | .97 | .97 | .97 | .. | .. | .97 | .97 | .. | .95 | .94 | .95 | .. | .85 | .85 | .85 | .85 | .85 |
| 24-24.9 | .94 | 1.01 | 1.01 | 1.01 | 1.01 | 1.01 | 1.01 | .94 | 1.01 | 1.01 | .. | .98 | .97 | .98 | .. | .90 | .90 | .90 | .88 | .88 |
| 25-25.9 | .98 | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | .98 | 1.05 | 1.05 | .. | 1.01 | 1.00 | 1.01 | .. | .95 | .95 | .95 | .91 | .91 |
| 26-26.9 | 1.02 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.02 | 1.09 | 1.09 | .. | 1.04 | 1.04 | 1.04 | .. | 1.00 | 1.00 | 1.00 | .94 | .94 |
| 27-27.9 | 1.06 | 1.13 | 1.13 | 1.13 | 1.13 | 1.13 | 1.13 | 1.06 | 1.13 | 1.13 | .. | 1.07 | 1.08 | 1.07 | .. | 1.05 | 1.05 | 1.05 | .98 | .97 |
| 28-28.9 | 1.10 | 1.17 | 1.17 | 1.17 | 1.17 | 1.17 | 1.17 | 1.10 | 1.17 | 1.17 | .. | 1.10 | 1.12 | 1.10 | .. | 1.10 | 1.10 | 1.10 | 1.02 | .. |
| 29-29.9 | 1.14 | 1.21 | 1.21 | 1.21 | .. | 1.21 | 1.21 | 1.14 | .. | 1.21 | .. | 1.13 | 1.16 | 1.15 | .. | 1.16 | 1.16 | 1.16 | 1.06 | .. |
| 30-30.9 | 1.18 | 1.25 | 1.25 | 1.25 | .. | 1.25 | 1.25 | 1.18 | .. | 1.25 | .. | 1.16 | 1.20 | 1.20 | .. | 1.22 | 1.22 | 1.22 | 1.10 | .. |
| 31-31.9 | 1.23 | 1.30 | 1.30 | 1.30 | .. | .. | 1.30 | 1.23 | .. | .. | .. | .. | .. | 1.25 | .. | 1.28 | 1.28 | 1.28 | 1.14 | .. |
| 32-32.9 | 1.28 | 1.35 | 1.35 | 1.35 | .. | .. | 1.35 | 1.28 | .. | .. | .. | .. | .. | 1.30 | .. | 1.34 | 1.34 | 1.34 | 1.18 | .. |
| 33-33.9 | | .. | .. | .. | .. | .. | 1.41 | 1.34 | .. | .. | .. | .. | .. | 1.35 | .. | 1.40 | 1.40 | 1.40 | 1.22 | .. |
| 34-34.9 | | .. | .. | .. | .. | .. | 1.47 | 1.40 | .. | .. | .. | .. | .. | 1.40 | .. | .. | .. | 1.46 | 1.26 | .. |
| 35-35.9 | | .. | .. | .. | .. | .. | 1.53 | 1.46 | .. | .. | .. | .. | .. | 1.45 | .. | .. | .. | .. | 1.30 | .. |
| 36-36.9 | | .. | .. | .. | .. | .. | 1.59 | 1.52 | .. | .. | .. | .. | .. | 1.50 | .. | .. | .. | .. | .. | .. |
| 37-37.9 | | .. | .. | .. | .. | .. | 1.65 | 1.58 | .. | .. | .. | .. | .. | 1.55 | .. | .. | .. | .. | .. | .. |
| 38-38.9 | | .. | .. | .. | .. | .. | 1.71 | 1.64 | .. | .. | .. | .. | .. | 1.60 | .. | .. | .. | .. | .. | .. |
| 39-39.9 | | .. | .. | .. | .. | .. | 1.77 | 1.70 | .. | .. | .. | .. | .. | 1.65 | .. | .. | .. | .. | .. | .. |
| 40-40.9 | | .. | .. | .. | .. | .. | 1.83 | 1.76 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| 41-41.9 | | .. | .. | .. | .. | .. | 1.89 | 1.82 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| 42-42.9 | | .. | .. | .. | .. | .. | 1.95 | 1.88 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

KETTLEMAN HILLS—55 degree Gravity and above $1.65 per barrel. *Union Oil Company.

# For Wells Repressured With Air *or* Gas

Considerable difficulty with "cut oil" has been experienced by many operators on leases being repressured with air or gas. Many and varying reasons have been advanced to account for this trouble, and many methods have been tried to overcome it—rarely, if ever, with any marked degree of success.

The increased agitation of water and oil in wells where repressuring methods are used naturally tends to increase emulsification of the crude. Any effort to overcome this emulsification by adjustment of the air or gas pressure naturally affects the efficiency of the repressuring system in direct proportion to the reduced emulsification of the production, and yet the trouble is not overcome sufficiently to warrant such measures.

"Petreco" is the logical solution of this difficulty. For "Petreco" solves the "cut oil" problem without in any way affecting production regardless of what methods are employed.

"Petreco" restores "cut" production to its original gravity, while eliminating all emulsified content and recovering all the oil from the emulsion. It is adaptable to any type of crude, to any field conditions, to any methods of operating wells—and is the most economical as well as the most satisfactory process of treating "cut oil" ever developed.

We have many installations operating successfully on leases where repressuring systems are used. Operators using these methods of production are invited to place their "cut oil" problems before our staff of petroleum engineers without obligation.

**PETROLEUM RECTIFYING COMPANY of CALIFORNIA**

Security Title Insurance Bldg. 530 West 6th Street. Los Angeles, Calif.

Petroleum Bldg. Houston, Texas

*If you have "cut oil" problems, send for a copy of this book today: "The Electrical Process for the Dehydration of Crude Oil Emulsions."*

# PETRECO

# CRUDE OIL PRICE QUOTATIONS (*Continued from Page 42*)

**(Magnolia Petroleum Company)**
**(Effective January 24, 1929)**

| | |
|---|---|
| Mitchell County | $ .65 |
| Howard-Glasscock County (shallow) | .65 |
| Howard-Glasscock County (deep) | .65 |

**Col-Tex Refining Company**

| | |
|---|---|
| Howard and Mitchell Counties | $ .80 |

**MARKHAM**
**The Texas Company**
**(Effective January 30, 1929)**

| | |
|---|---|
| All grades | .90 |

**LULING**

| | |
|---|---|
| All grades | .80 |

**NORTH AND CENTRAL TEXAS**
**(Effective January 24, 1929)**
**Ranger, North Texas, Mexia, Powell, Richland, Wortham, Currie, Moran, Nocona and Lytton Springs Crude**
**(Humble Oil and Refining Company)**

| | |
|---|---|
| Below 25 | .60 |
| 25 to 25.9 gravity | .66 |
| 26 to 26.9 gravity | .72 |
| 27 to 27.9 gravity | .78 |
| 28 to 28.9 gravity | .84 |
| 29 to 29.9 gravity | .90 |
| 30 to 30.9 gravity | .96 |
| 31 to 31.9 gravity | 1.02 |
| 32 to 32.9 gravity | 1.08 |
| 33 to 33.9 gravity | 1.11 |
| 34 to 34.9 gravity | 1.14 |
| 35 to 35.9 gravity | 1.17 |
| 36 to 36.9 gravity | 1.20 |
| 37 to 37.9 gravity | 1.23 |
| 38 to 38.9 gravity | 1.26 |
| 39 to 39.9 gravity | 1.29 |
| 40 to 40.9 gravity | 1.32 |
| 41 to 41.9 gravity | 1.35 |
| 42 to 42.9 gravity | 1.38 |
| 43 to 43.9 gravity | 1.41 |
| 44 and above | 1.44 |

**SOUTH TEXAS**

| | |
|---|---|
| Mirando and Salt Flat | .80 |

**GULF COAST**
**(Effective January 26, 1929)**

| | |
|---|---|
| Grade "A" all companies | 1.20 |
| Gulf Coast Light Oil, below 25 | 1.05 |
| 25 to 25.9 gravity | 1.07 |
| 26 to 26.9 gravity | 1.09 |
| 27 to 27.9 gravity | 1.11 |
| 28 to 28.9 gravity | 1.13 |
| 29 to 29.9 gravity | 1.15 |
| 30 to 30.9 gravity | 1.17 |
| 31 to 31.9 gravity | 1.19 |
| 32 to 32.9 gravity | 1.21 |
| 33 to 33.9 gravity | 1.23 |
| 34 to 34.9 gravity | 1.25 |
| 35 to 35.9 gravity | 1.27 |
| 36 to 36.9 gravity | 1.29 |
| 37 to 37.9 gravity | 1.31 |
| 38 to 38.9 gravity | 1.33 |
| 39 to 39.9 gravity | 1.35 |
| 40 an above | 1.37 |

***Humble Oil & Refining Company's postings on Gulf Coast Light stop at 35 to 35.9 Its price on all crudes above 35 to $1.37 per barrel.**

**Magnolia Petroleum Company's postings stop at 31 to 31.9.**

**SOMERSET**
**Grayburg**

| | |
|---|---|
| Below 33 gravity | 1.05 |
| 33 to 33.9 gravity | 1.07 |
| 34 to 34.9 gravity | 1.09 |
| 35 to 35.9 gravity | 1.11 |
| 36 to 36.9 gravity | 1.13 |
| 37 to 37.9 gravity | 1.15 |
| 38 and above | 1.17 |

**WYOMING-MONTANA**
**(Effective January 25, 1929)**
**Wyoming**

| | |
|---|---|
| Byron | 1.33 |
| Ferris | 1.60 |
| Elk Basin | 1.36 |
| Grass Creek | 1.36 |
| Rock Creek | 1.18 |
| Lost Soldier | .95 |
| Lance Creek | 1.38 |
| Mule Creek | 1.10 |
| Notches | .65 |
| Big Muddy | 1.28 |
| Osage | 1.38 |
| Hamilton Dome | .85 |
| Pilot Butte | 1.75 |
| Torchlight-Greybull | 1.48 |
| Lander | .80 |
| Simpson Ridge | .80 |
| Rex Lake | 1.10 |
| South Casper Creek-Poison Spider | 1.00 |

**Salt Creek**
**Midwest Refining Company**

| | |
|---|---|
| 29 to 29.9 gravity | .90 |
| 30 to 30.9 gravity | .96 |
| 31 to 31.9 gravity | 1.02 |
| 32 to 32.9 gravity | 1.08 |
| 33 to 33.9 gravity | 1.11 |
| 34 to 34.9 gravity | 1.14 |
| 35 to 35.9 gravity | 1.17 |
| 36 to 36.9 gravity | 1.20 |
| 37 and above | 1.23 |

**MONTANA**

| | |
|---|---|
| Sunburst | $1.65 |
| Cat Creek | 1.48 |
| Lake Basin | 2.20 |

**NEW MEXICO**

| | |
|---|---|
| Artesia | 1.08 |
| Hogback | 1.43 |

**CANADA**
**(Effective January 26, 1929)**

| | |
|---|---|
| Oil Springs | 1.97 |
| Petrolia | 1.90 |

**LOUISIANA-ARKANSAS**
**(Effective January 26, 1929)**
**Homer, Haynesville, Caddo, El Dorado, De Soto and Crichton and Cotton Valley***
**(Atlantic Oil Producing Company, Standard of Louisiana, Magnolia Petroleum Company and**

| | |
|---|---|
| 27 to 27.9 gravity | .78 |
| 28 to 28.9 gravity | .84 |
| 29 to 29.9 gravity | .90 |
| 30 to 30.9 gravity | .96 |
| 31 to 31.9 gravity | 1.02 |
| 32 to 32.9 gravity | 1.08 |
| 33 to 33.9 gravity | 1.11 |
| 34 to 34.9 gravity | 1.14 |
| 35 to 35.9 gravity | 1.17 |
| 36 to 36.9 gravity | 1.20 |
| 37 to 37.9 gravity | 1.23 |
| 38 to 38.9 gravity | 1.26 |
| 39 to 39.9 gravity | 1.29 |
| 40 to 40.9 gravity | 1.32 |
| 41 to 41.9 gravity | 1.35 |
| 42 to 42.9 gravity | 1.38 |
| 43 to 43.9 gravity | 1.41 |
| 44 gravity and above | 1.44 |

***Shreveport-Eldorado's postings stop at above 40 gravity.**

**The posting on Cotton Valley is same as Caddo. From 36 to 52 and above the regular gravity schedule is followed.**

**The Texas Company pays North Texas gravity scale in North Louisiana.**

**STEPHENS**
**(All Companies)**

| | |
|---|---|
| Below 28 gravity | .70 |
| 28 to 28.9 gravity....N | .74 |
| 29 to 29.9 gravity | .78 |
| 30 to 30.9 gravity | .82 |
| 31 to 31.9 gravity | .86 |
| 32 gravity and above | .90 |

**SMACKOVER**
**(All Companies)**

| | |
|---|---|
| Below 24 gravity | .75 |
| 24 and above | .90 |
| Bellevue | 1.25 |
| Jennings | 1.15 |
| Vinton | 1.30 |
| Edgerly | 1.30 |
| Starks Dome | 1.30 |
| Urania | .85 |
| Calion | .75 |

## IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

**American Petroleum Institute Figures (Barrels of 42 Gallons)**

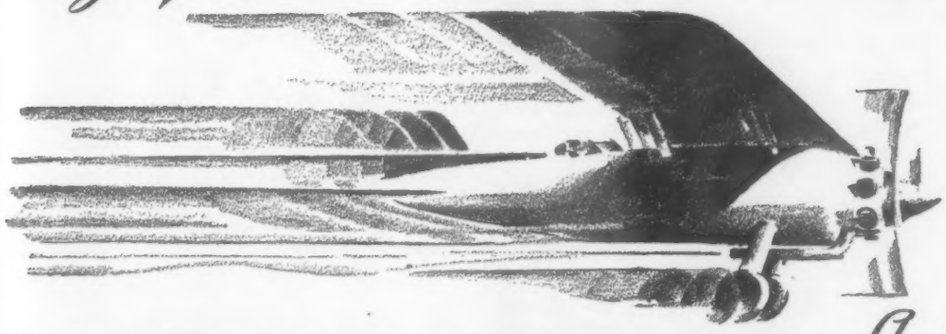
| | Week Ended Feb. 23 | Week En'd Feb. 16 |
|---|---|---|
| AT ATLANTIC COAST PORTS— | | |
| Baltimore | 63,000 | 65,000 |
| Boston | 142,000 | 143,000 |
| New York | 507,000 | 850,000 |
| Philadelphia | 151,000 | 243,000 |
| Others | 85,000 | 125,000 |
| Total | 948,000 | 1,426,000 |
| Daily Average | 135,428 | 203,714 |
| AT GULF COAST PORTS— | | |
| Galveston District | ..... | ..... |
| New Orleans and Baton Rouge | 253,000 | ..... |
| Port Arthur and Sabine District | ..... | ..... |
| Tampa | ..... | ..... |
| Total | 253,000 | ..... |
| Daily Average | 36,143 | ..... |
| AT ALL UNITED STATES PORTS— | | |
| Total | 1,201,000 | 1,426,000 |
| Daily Average | 171,571 | 203,714 |
| Daily Average Four Weeks Ended | 238,821 | 268,357 |

## RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF COAST PORTS

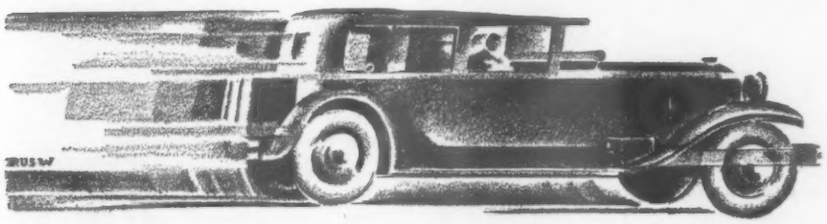
**American Petroleum Institute Figures (Barrels of 42 Gallons)**

| | Week Ended Feb. 23 | Week En'd Feb. 16 |
|---|---|---|
| AT ATLANTIC COAST PORTS— | | |
| Baltimore | ..... | 95,000 |
| Boston | ..... | ..... |
| New York | ..... | 410,000 |
| Philadelphia | 80,000 | 36,000 |
| Others | 80,000 | 76,000 |
| Tota. l | 160,000 | 617,000 |
| Daily Average | 22,857 | 88,143 |
| AT GULF COAST PORTS— | | |
| Total | ..... | ..... |
| Daily Average | ..... | ..... |
| AT ATLANTIC AND GULF COAST PORTS— | | |
| Total | 160,000 | 617,000 |
| Daily Average | 22,857 | 88,143 |
| Daily Average Four Weeks Ended | 68,179 | 78,750 |
| DISTRIBUTION OF TOTAL CALIFORNIA OIL RECEIPTS IS AS FOLLOWS— | | |
| Crude | ..... | ..... |
| Gasoline | 80,000 | 445,000 |
| Gas Oil | ..... | 172,000 |
| Kerosene | 80,000 | ..... |
| Total | 160,000 | 617,000 |

# *Enjoy* DRIVING YOUR CAR THIS WINTER



## .....USE THIS MARVELOUS *flying fuel..!*



## IT STARTS COLD ENGINES *fast.....!*

IF your car must stand out in the cold... all day or all night...with a North wind whistling 'round it . . . don't worry about starting the engine if you have Sinclair Aircraft Gasoline in the tank. This is the Ace of High Test gasolines—it is guaranteed to meet Army, Navy, and Bureau of Mines Specifications for Aviation Gasoline, domestic grade.

If you want a gasoline that will start your engine on the first try of the starter and will tune it up fast without excessive choking—if you want a gasoline that will eliminate gas locks, preventing jerky operation—try Sinclair Aircraft Gasoline.

Enjoy driving your car this winter!

SINCLAIR REFINING COMPANY, INC., 45 NASSAU STREET, NEW YORK
ATLANTA BOSTON CHICAGO HOUSTON KANSAS CITY

**SINCLAIR AIRCRAFT GASOLINE**

© 1929 S. R. C.

(Continued from page 41)

ever, with the wholesale price reported as low as nine cents, including tax. The relation between crude and gasoline prices is so close that a crude slash is possible unless the gasoline situation is adjusted. Major companies are battling between themselves, aggravating the situation considerably. The legislature is investigating the present price war and corrective legislation is possible.

**North Texas**

Efforts made last week to lower the allowance production of the Winkler County area, West Texas district, to 125,000 barrels daily, or a reduction of 50 thousand barrels, met with failure. Winkler operators were asked to vote on the proposed production cut, and when the proration advisory committee met in Fort Worth February 27 to count the votes the opposition registered too strongly against the group fostering the move. Water encroachment upon the Hendrick field proper was largely basis of the proposed cut in daily allowance, although a slackened demand for crude was also a factor. However, recent large crude contract involving deliveries over the balance of the year have served to bolster up the West Texas crude market, and no contracts are now available at less than posted prices. Excepting the Howard-Glasscock County deep pay field, the major oil producing areas in West Texas have comparatively few rigs running, and all completions in the former area are pumpers, with rigid restrictions against the use of the swab or gas air lift methods. The Yates and Hendricks fields have only 10 derricks, rigs and machines up and 41 tests actually underway, and a further decline in development is assured.

The Yates operators have adhered to production restrictions since its discovery while Hendrick field production has been restricted to a small fraction of its potential since last May.

The gasoline market in North Texas was steady early this week, with U. S. Motor selling at 6¾ cents per gallon. Plant owners are enjoying a favorable market on gas oil and kerosene production, as the former product is somewhat scarce at 3 cents per gallon, while the average grade of kerosene is netting the manufacturer about 5½ cents per gallon. Good grades of fuel oil are quoted at 70 cents per barrel in North Texas, but buyers are anticipating a break in the price structure, and retarding purchases.

---

**G. A. Stack**, superintendent of land department and E. Beck, chief geologist for the producers & Refiners Corporation with headquarters at Tulsa, were visitors in Eastland and Fort Worth during the past week in connection with the opening of a land and scouting office at Eastland.

## Framing Bill to Restrict California Output

Los Angeles, Calif. — A committee composed of three attorneys and three operators is framing a bill for legislative action to stop wastage of natural gas in California. This bill would be sweeping enough to force lower production of crude in critical areas.

Efforts are being made to stop the development of all zones below the Buckbee at Santa Fe Springs. This would mean a rapid decline from the peak which is now at hand.

## Atlantic Buys Hendrick Crude from Gulf

San Angelo, Texas.—Gulf Production Company has contracted to sell a maximum of 5000 barrels of Hendrick field crude to the Atlantic Oil Producing Company over the balance of the year at the prevailing market price at the well. This contract involves delivery of approximately 1,500,000 barrels, and the oil will be run by the Atlantic Pipe Line Company through its 10-inch trunk line to Atlantic Oil Producing Company's tanker terminals at Atreco. Gulf Production Company has an allowable production of 17,471 barrels daily from 34 wells in the Hendrick field, and 10,000 barrels of this amount is being purchased and run by Humble Pipe Line Company and the remainder by Shell Petroleum Corporation on short time contracts, which will be terminated late this month. Gulf Pipe Line Company is at work on laying a combination eight- and 10-inch line from its Midland terminals to the Hendrick field, and will run all oil produced in excess of the contracts outstanding, but its trunk line will be crowded to capacity to handle same. Gulf Pipe Line Company is making heavy pipe line runs from Crane, Upton and Pecos Counties, and its line capacity is not sufficient to take all of the Hendrick field production earned under proration by Gulf Production Company.

## Texas Company Drilling New Dome at Orange

Houston. — In Orange County The Texas Company was down 778 feet early this week in its Kuhn 1, the first test of a supposed dome that was outlined by that company last year by geophysical methods.

The area is about mid-way between the Spindle Top and the Orange fields, and is about four miles north of Port Neches.

The report which showed the test at the mentioned depth also showed the drilling being delayed because of losing returns at that level.

---

Houston. — Humble Oil & Refining Company's Minnetex 1 at Mykawa, just outside of Houston to the south, is drilling deeper after testing salt water at 5497 feet, and on Monday of this week was reported drilling sandy shale at 5605 feet.

This test is on a supposed dome, outlined by torsion balance; and is the only test that has yet been started there.

## California Refinery Sets New Record in January

Los Angeles, Cal.—California refineries in January broke all previous records in running an average of 625,400 barrels daily of crude to stills, and in addition used daily average of 34,427 barrels of natural gasoline for blending purposes. The January report compiled by the San Francisco office of the Bureau of Mines further shows that a total of 36,911,775,000 cubic feet of natural gas was run through natural gasoline plants for a total recovery of 53,968,302 gallons of natural gasoline, another new record. This gas comes from the oil wells and the producer is netting around seven cents for each gallon of natural gasoline produced from the gas from his well.

Stocks of refinable crude in California in January increased 2,200,855 barrels, while stocks of heavy crudes plus all grades of fuel oils decreased 237,367 barrels. Natural gasoline stocks now total 1,243,252 barrels against 1,221,766 barrels end of previous month.

During January, exports of all petroleum products from California ports reached a total of 6,988,922 barrels, which included the following products: crude oil, 616,764 barrels; fuel oil, 2,102,792 barrels; gas oil, 511,917 barrels; Diesel oil, 169,526 barrels; gasoline, 3,204,619 barrels; kerosene, 363,043 barrels, and lubricants, 20,261 barrels.

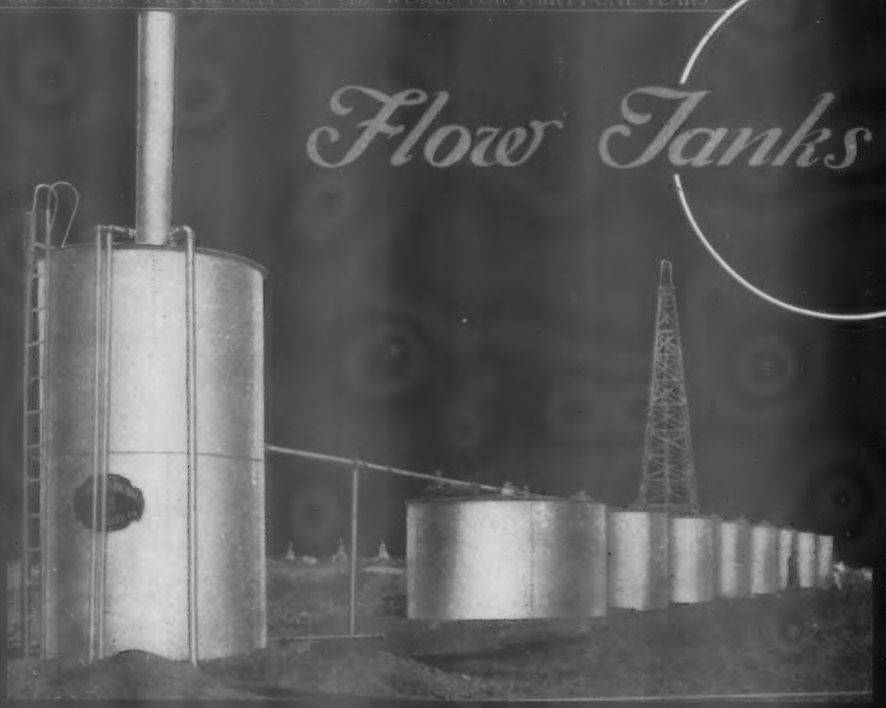
## Ventura Wells Smaller in January and February

Ventura, Calif.—Average initial production of wells completed in the Ventura field during January and February was much smaller than that of those completed during the same period last year. Edge wells are beginning to show the effects of a declining gas pressure and only completions near the center of the field have shown an average initial production comparing favorably with similar completions one and two years ago. This decline does not mean that field production will decline rapidly and that only small wells will be finished in the future, but it does mean that a greater number of wells will be required to produce a given amount of crude, and that if production is maintained more wells must be started. The extreme depth at which production is obtained makes for conservative development and care in completion. A substantial decline on edge tracts will discourage additional drilling.

# Parkersburg

HAS SERVED THE OIL FIELDS OF THE WORLD FOR THIRTY-ONE YEARS

## *Flow Tanks*



SPECIALLY built and designed to meet the most exacting requirements, Parkersburg Flow Tanks have demonstrated their strength and ability to withstand the excessive vibrations present in handling extremely large volumes of gas and oil under heavy pressure.

For the release of excess vapors, equipment is furnished in accordance with the operator's special requirements.

A most satisfactory solution to the vent problem is found in the Parkersburg Flow Tank Stack, through the use of pressure valves of the "butterfly" type.

The stack is 18 inches in diameter, 7 feet long, and is completely equipped with guy wire and lugs for connection to tank deck.

For complete and detailed information on Parkersburg Flow Tanks, Bolted Steel Tanks, and Vapor Tight Equipment, send for Section "S," Catalog 26.

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**Parkersburg Products**

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|---|---|
| Steel Derricks & Steel Crown Blocks ■ | Rig Irons (A.P.I. Standard) ■ |
| Chain Driven Sand Reels & Bailing Reels ■ | Portable Drilling Machines (Wood & All-Steel) ■ |
| Steel Wheels ■ | Bolted Steel Tanks ■ |
| All-Steel Standard Rigs ■ | Miscellaneous Drilling Equipment ■ |

*Check the equipment in which you are interested, tear out and return this page, with your name and address, to us, and we will send you complete information on the items checked.*

PARKERSBURG EQUIPMENT THE STANDARD FOR COMPARISON THE WORLD OVER

# United States Daily Average Production

*Figures below are taken from the complete revised estimates of the AMERICAN PETROLEUM INSTITUTE except for the current week, which are advance estimates issued by the A. P. I. and are subject to revision:*

| 1927 | Oklahoma | Kansas | Texas (Outside Gulf Coast) | Gulf Coast | North Louisiana | Arkansas | Eastern States | Rocky Mountain | California | United States Da ly Ave. | United Stases Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| November | 766,900 | 106,650 | 501,750 | 138,100 | 49,400 | 97,850 | 114,900 | 75,050 | 623,850 | 2,474,450 | 74,233,500 |
| December | 720,700 | 106,150 | 531,650 | 138,500 | 47,200 | 94,950 | 111,250 | 77,150 | 624,600 | 2,452,150 | 76,017,050 |
| 1928 | | | | | | | | | | | |
| January | 675,450 | 108,300 | 523,300 | 125,450 | 45,250 | 90,050 | 109,600 | 77,000 | 617,100 | 2,371,500 | 73,516.500 |
| February | 664,450 | 110,550 | 538,750 | 115,800 | 45,300 | 88,250 | 104,850 | 75,550 | 614,750 | 2,358,250 | 68,388.850 |
| March | 646,850 | 112,250 | 575,850 | 119,900 | 44,400 | 85,600 | 102,150 | 78,700 | 617,450 | 2,383,150 | 73,877,650 |
| April | 620,450 | 112,150 | 617,850 | 118,850 | 46,900 | 83,450 | 107,000 | 78,500 | 613,550 | 2,398,700 | 71,961,100 |
| May | 610,100 | 108,750 | 561,450 | 129,850 | 43,600 | 91,250 | 112,100 | 82,200 | 630,900 | 2,370,200 | 73,476,300 |
| June | 594,850 | 105,200 | 554,400 | 135,400 | 42,350 | 102,850 | 109,300 | 82,400 | 643,400 | 2,370,150 | 71,104,500 |
| July | 587,150 | 102,750 | 597,250 | 133,650 | 42,150 | 90,700 | 113,400 | 80,400 | 644,700 | 2,392,150 | 74,156,600 |
| August | 656,350 | 102,200 | 604,000 | 130,200 | 40,200 | 87,500 | 113,300 | 77,700 | 634,150 | 2,445,600 | 75,534,600 |
| September | 724,850 | 99,750 | 604,150 | 129,500 | 39,050 | 84,700 | 112,550 | 78,850 | 631,650 | 2,505,050 | 75,151,500 |
| October | 741,350 | 97,900 | 598,550 | 129,950 | 38,800 | 83,550 | 114,000 | 83,300 | 624,450 | 2,511,850 | 77,867,800 |
| November | 715,750 | 96,600 | 586,350 | 135,100 | 38,600 | 83,000 | 109,700 | 81,150 | 653,050 | 2,499,300 | 74,978,300 |
| December | 710,600 | 97,200 | 603,700 | 135,050 | 37,300 | 81,350 | 113,450 | 74,600 | 697,850 | 2,551,100 | 79,084,400 |
| 1929 | | | | | | | | | | | |
| January | 722,550 | 97,150 | 632,500 | 136,750 | 36,650 | 78,600 | 111,950 | 73,200 | 747,250 | 2,635,600 | 81,703,600 |
| Feb. 2 | 728,700 | 96,800 | 641,100 | 139,550 | 35,950 | 77,400 | 110,600 | 71,850 | 778,100 | 2,680,050 | 18,760,350 |
| Feb. 9 | 728,350 | 95,700 | 640,550 | 143,500 | 35,700 | 77,250 | 109,600 | 72,950 | 789,900 | 2,693,550 | 18,854,850 |
| Feb. 16 | 708,200 | 95,950 | 635,350 | 142,550 | 36,150 | 76,850 | 108,600 | 73,150 | 798,100 | 2,674,900 | 18,724,300 |
| Feb. 23 | 703,400 | 95,500 | 656,250 | 142,400 | 35,700 | 76,100 | 107,850 | 68,750 | 808,200 | 2,694,150 | 18,859,050 |
| Mar. 2 | 713,000 | 95,700 | 659,750 | 143,500 | 35,700 | 74,400 | 107,100 | 71,950 | 801,800 | 2,702,900 | 18,920,300 |
| Increase | 9,600 | 200 | 3,500 | 1,100 | ..... | ..... | ..... | 3,200 | ..... | 8,750 | 61,250 |
| Decrease | ..... | ..... | ..... | ..... | ..... | 1,700 | 750 | ..... | 6,400 | ..... | ..... |

## TEXAS

### (Outside Gulf Coast)

### PANHANDLE DISTRICT

| | Mar. 2 | Feb. 23 |
|---|---|---|
| Carson County | 5,800 | 5,700 |
| Gray County | 20,800 | 22,000 |
| Hutchinson County | 27,050 | 25,250 |
| Wheeler County | 750 | 600 |
| Others | 1,700 | 1,700 |
| Total | 56,100 | 55,250 |

### NORTH TEXAS

| | | |
|---|---|---|
| Archer County | 17,300 | 17,500 |
| Burkburnett | 9,000 | 9,100 |
| Electra | 12,850 | 13,000 |
| Iowa Park-KMA | 6,100 | 6,300 |
| Montague and Cooke Cos. | 9,600 | 9,700 |
| Wilbarger | 26,700 | 26,900 |
| Others | 500 | 500 |
| Total | 82,050 | 83,000 |

### WEST CENTRAL TEXAS

| | | |
|---|---|---|
| Brown County | 9,000 | 8,900 |
| Callahan County | 3,700 | 3,700 |
| Coleman County | 3,700 | 3,700 |
| Eastland-Desdemona | 6,750 | 6,800 |
| Jack County | 1,700 | 1,700 |
| Palo Pinto County | 400 | 400 |
| Shackelford County | 13,000 | 13,100 |
| Stephens County | 6,550 | 6,400 |
| Throckmorton County | 700 | 700 |
| Young County | 7,300 | 7,400 |
| Others | 650 | 700 |
| Total | 53,450 | 53,500 |

### WEST TEXAS

| | | |
|---|---|---|
| Crane-Upton Counties | 49,900 | 50,600 |
| Crockett County | 2,200 | 2,250 |
| Howard County | 45,500 | 47,800 |
| Jones County | 6,200 | 6,500 |
| Mitchell-Scurry Counties | 2,700 | 2,700 |
| Pecos County | 85,800 | 83,750 |
| Reagan County | 18,500 | 18,800 |
| Winkler County | 173,800 | 170,400 |
| Others | 1,650 | 1,700 |
| Total | 386,250 | 384,500 |

### EAST CENTRAL TEXAS

| | | |
|---|---|---|
| Boggy Creek | 3,600 | 3,700 |
| Corsicana-Powell | 8,700 | 8,950 |
| Currie | 450 | 500 |
| Mexia | 5,700 | 5,800 |
| Nigger Creek | 600 | 600 |
| Richland | 400 | 500 |
| Wortham | 1,200 | 1,350 |
| Total | 20,650 | 21,400 |

### SOUTHWEST TEXAS

| | | |
|---|---|---|
| Dale | 700 | 700 |
| Laredo District | 12,400 | 12,500 |
| Luling | 12,650 | 12,800 |
| Lytton Springs | 1,000 | 1,000 |
| Somerset | 600 | 600 |
| Salt Flat | 28,650 | 26,000 |
| Others | 5,250 | 5,900 |
| Total | 61,250 | 58,600 |
| Total Tex. (Outside Gulf Coast | 659,750 | 656,250 |

### TEXAS GULF COAST

| | | |
|---|---|---|
| Barbers Hill | 5,650 | 5,900 |
| Batson | 1,400 | 1,250 |
| Big Creek | 4,500 | 4,850 |
| Blue Ridge | 4,350 | 4,000 |
| Boling | 1,800 | 2,000 |
| Damon Mound | 800 | 950 |
| Goose Creek | 6,900 | 6,500 |
| Hull | 10,300 | 9,900 |
| Humble | 5,250 | 4,600 |
| Orange County | 2,800 | 2,850 |
| Pierce Junction | 11,950 | 12,400 |
| Raccoon Bend | 2,600 | 2,250 |
| Saratoga | 900 | 900 |
| Sour Lake | 2,950 | 2,900 |
| South Liberty | 5,850 | 6,200 |
| Spindle Top | 32,900 | 33,550 |
| Sugar Land | 7,950 | 7,600 |
| West Columbia | 7,000 | 7,000 |
| Others | 7,000 | 5,900 |
| Total | 122,850 | 121,500 |
| Texas Total | 782,600 | 777,750 |

## OKLAHOMA

| | | |
|---|---|---|
| Braman | 3,350 | 3,450 |
| Logan County | 11,650 | 13,200 |
| Blackwell | 4,050 | 4,100 |
| Hubbard | 1,950 | 1,950 |
| Thomas | 850 | 850 |
| Tonkawa | 10,500 | 10,500 |
| Garber | 5,700 | 6,000 |
| Burbank | 22,350 | 22,200 |
| Osage (outside Burbank) | 25,850 | 25,800 |
| Cushing | 20,500 | 20,500 |
| Yale Jennings | 7,600 | 7,650 |
| Davenport | 1,650 | 1,650 |
| Bistow Slick | 18,950 | 18,950 |
| North Okmulgee | 14,650 | 14,600 |
| Lyons Deaner | 8,450 | 8,450 |
| Cromwell | 7,850 | 7,850 |
| Papoose | 3,400 | 3,400 |
| Wewoka | 5,000 | 5,100 |
| Seminole | 33,800 | 33,650 |
| Bowlegs | 36,100 | 33,800 |
| Searight | 9,850 | 9,600 |
| Little River | 83,800 | 84,650 |
| Earlsboro | 58,750 | 54,950 |
| Duncan District | 6,950 | 7,050 |
| Graham | 4,400 | 4,450 |
| Fox | 1,500 | 1,500 |
| Healdton | 12,950 | 13,000 |
| Hewitt | 8,500 | 8,550 |
| Scholem Alechem | 13,100 | 13,200 |
| Pearson | 1,650 | 1,700 |
| St. Louis | 111,950 | 106,750 |
| Allen | 25,900 | 27,500 |
| Maud | 37,150 | 41,900 |
| Oklahoma City | 5,150 | 5,450 |
| Mission | 47,000 | 35,150 |
| Others | 40,200 | 39,850 |
| Total | 713,000 | 703,400 |

## CALIFORNIA

| | | |
|---|---|---|
| Santa Fe Springs | 197,000 | 202,000 |
| Long Beach | 180,000 | 181,500 |
| Huntington Beach | 47,000 | 47,000 |
| Torrance | 15,000 | 15,000 |
| Dominguez | 10,000 | 10,000 |
| Rosecrans | 6,500 | 6,500 |
| Inglewood | 26,500 | 26,500 |
| Midway-Sunset | 73,000 | 73,000 |
| Ventura Avenue | 55,500 | 55,500 |
| Seal Beach | 33,000 | 32,500 |
| Elwood-Goleta | 22,500 | 23,000 |
| Kettleman Hills | 3,500 | 3,400 |
| Others | 132,300 | 132,300 |
| Total | 801,800 | 808,200 |

## KANSAS

| | | |
|---|---|---|
| Greenwood County | 21,900 | 22,000 |
| Florence-Covert | 1,000 | 1,000 |
| Peabody-Ebling | 3,000 | 3,050 |
| Eldorado-Towanda | 12,050 | 12,050 |
| Augusta-Fox Bush | 2,900 | 2,900 |
| Rainbow Bend | 1,000 | 1,000 |
| Russell | 3,400 | 3,400 |
| Churchill | 7,050 | 7,200 |
| Oxford | 5,750 | 5,800 |
| Sedgewick | 8,650 | 7,600 |
| Others | 29,000 | 29,500 |
| Others | 250 | 200 |
| Total | 95,700 | 95,500 |

## NORTH LOUISIANA

| | Mar. 2 | Feb. 23 |
|---|---|---|
| Homer | 3,950 | 4,000 |
| Haynesville | 5,500 | 5,500 |
| Caddo Light | 9,000 | 8,750 |
| Caddo Heavy | 2,650 | 2,800 |
| DeSoto-Red River | 4,000 | 3,950 |
| Elm Grove | 600 | 600 |
| Bellevue | 700 | 750 |
| Cotton Valley | 2,850 | 2,900 |
| Urania | 5,750 | 5,800 |
| Pleasant Hill | 450 | 400 |
| | 250 | 200 |
| Totals North Louisiana | 35,700 | 35,700 |

### LOUISIANA GULF COAST

| | | |
|---|---|---|
| Bayou Bouilion | 500 | 300 |
| East Hackberry | 5,750 | 6,150 |
| Edgerly | 850 | 850 |
| Evangeline | 800 | 800 |
| Lockport | 4,800 | 5,000 |
| Sorrento | 550 | 550 |
| Sulphur Dome | 2,000 | 2,000 |
| Sweet Lake | 500 | 550 |
| Vinton | 4,350 | 4,100 |
| Others | 550 | 600 |
| Total Louisiana Gulf Coast | 20,650 | 20,900 |
| Louisiana Total | 56,350 | 56,600 |

## ARKANSAS

| | | |
|---|---|---|
| El Dorado | 4,600 | 4,600 |
| Champagnolle | 8,700 | 10,150 |
| Smackover Light | 6,250 | 6,250 |
| Smackover Heavy | 50,900 | 51,050 |
| Stephens | 1,000 | 1,000 |
| Nevada | 1,400 | 1,450 |
| Lisbon | 1,450 | 1,500 |
| Others | 100 | 100 |
| Total | 74,400 | 76,100 |

## MOUNTAIN STATES

### WYOMING

| | | |
|---|---|---|
| Salt Creek | 33,600 | 32,000 |
| Grass Creek | 2,250 | 2,200 |
| Elk Basin | 700 | 750 |
| Big Muddy | 2,250 | 2,250 |
| Lost Soldier | 3,400 | 3,400 |
| Rock River | 2,150 | 2,400 |
| Lance Creek | 300 | 300 |
| Oregon Basin | 3,000 | 3,350 |
| La Barge | 2,050 | 2,050 |
| Others | 2,550 | 2,600 |
| Total | 52,250 | 51,300 |

### MONTANA

| | | |
|---|---|---|
| Cat Creek | 1,300 | 1,250 |
| Sunburst | 5,400 | 5,450 |
| Pondera | 2,700 | 1,800 |
| Total | 9,400 | 8,500 |

### COLORADO

| | | |
|---|---|---|
| Moffats (Craig) | 1,450 | 850 |
| Fort Collins | 2,650 | 2,700 |
| Florence | 1,400 | 1,150 |
| Others | 1,950 | 1,600 |
| Total | 7,450 | 6,300 |

### NEW MEXICO

| | | |
|---|---|---|
| Table Mesa | .... | 100 |
| Artesia | 950 | 950 |
| Hogback | 400 | 200 |
| Rattlesnake | 1,350 | 1,250 |
| Others | 150 | 150 |
| Totals | 2,850 | 2,650 |
| Totals Mountain States | 71,950 | 68,750 |

### EASTERN STATES

| | | |
|---|---|---|
| (Including Ill., Ind., Ohio, W. Va., Pa., Ky., and N. Y.) | 107,100 | 107,650 |

### PRODUCTION SUMMARY

| | | |
|---|---|---|
| East of Rockies | 1,829,150 | 1,817,300 |
| Total U. S. | 2,702,900 | 2,694,150 |

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# Conservation Board Suggests Unrestricted Imports

## Third report of federal body to president sees move toward cooperative development as hopeful sign

WASHINGTON, D. C. — Members of the oil industry who last week petitioned the House committee on ways and means for a duty of $1 per barrel on imported crude and compensatory duties on imports of refined products find that the Federal Oil Conservation Board is not in sympathy with their view, the third report of the board, submitted to President Coolidge March 3, declaring that the depletion rate of our oil resources can be brought into nearer accord with that of foreign countries only by the importation of a greater quantity of crude petroleum.

"Cooperation in the development of foreign oil fields, through technical assistance and the further investment of American capital," the board declared, "would seem to be a logical conservation measure."

The report just submitted by the board deals with general petroleum conditions, supplementing previous reports on conditions affecting petroleum production in the United States and the development of possible petroleum substitutes.

The excess production which led to the establishment of the oil board in 1924 still continues, the president is advised in the report. The flow from new wells has more than offset the declining output of old wells, and production has even kept ahead of increasing consumption. The increase in consumption is in part ascribed to abundance and cheapness, but in part to a widespread desire for more and more automotive transportation, and the board feels this increase in demand may be expected to continue until an impending shortage causes a radical advance in prices.

The discovery of new fields and of deeper sands in old fields has materially increased estimates of assured future supplies, the board finds. Larger proportions of the oil are being recovered from the sands but, better still, there is a definite trend toward cooperative methods in developing and operating new fields and in rejuvenating old fields.

### Trend Toward Conservation

"While from an economic point of view these additions to our estimates of the reserves of oil in known fields are gratifying," the board comments, nevertheless they constitute an increased menace to the industry unless self-restraint continues to be exercised in the exploitation of the newly discovered sands. Fortunately for the public interest, the trend in operating policy of the stronger companies has been definitely in the direction of conservation; immediate development of a field no longer always follows its discovery; offset agreements have slowed development in proved areas; flush flow has been prorated to prevent flooding of markets with consequent loss to producers, both large and small; and the present shut-in production is of a volume never approached in previous years. All this is accomplishment that affords the best evidence of the possibility of a high degree of self-regulation in the business of bringing oil to the surface.

"The large volume of shut-in production, which has increased appreciably in the past year, and its wide distribution constitute substantial proof of a rationalized control of production. The discovery of oil pools with the aid of geophysical surveys, making possible postponement of development of these pools, is a new conservation measure quite in line with the broader business outlook of the leaders of the industry. Storage of oil underground, where nature placed it, is regarded as the best method because it is cheapest and safest.

### Bar Association Bills

"In the nation's inventory of essential resources, the present wide margin between potential and actual production of oil represents a quick asset, but one subject to the risk of hasty and unwise expenditure. The true value of this large proved reserve available for immediate use is dependent upon self-restraint actuated by enlightened self-interest. Under present conditions, divided ownership in an oil field must involve correlated rights and obligations, and only as these are recognized and lead to voluntary agreements can there be freedom from economic waste in developing and operating the field. The possibility of unrestrained individual action in what should await regulated community action still remains a menace to the present stabilized rate of production. This natural conflict in thought between the 'intense individualist' and the 'forward-looking leaders' together with the ever-present threat of competitive drilling and intensive producing have prompted the committee of the American Bar Association to draft legislation, later referred to in this report, invoking the police power of the state to regulate the correlative position of the parties in interest in conserving an irreplaceable and indispensable natural resource. Plainly, the essential factor in handling underground reserves of oil, admittedly the most economical form of storage, is full cooperation in unit control, whether by voluntary agreement or by state enforcement.

"The complete organization of cooperative effort recommended by the board in its first report has not been attained, but the keen and sustained attention given to the study of new methods, the many conferences held, the large number of working committees organized within the industry and the cooperative spirit with which different units have worked together are all indicative of a new appreciation of responsibility. The acceptance of the principle of conservation as a practical policy by the foremost executives of the larger oil companies is a hopeful

(Continued on page 63)

## Wilbur Replaces West on Oil Conservation Board

Washington, D. C. — Ray Lyman Wilbur, of California, who will be Secretary of the Interior in President Hoover's Cabinet, will succeed former Secretary Roy O. West as a member of the Federal Oil Conservation Board.

The new Secretary of the Interior was born in Boonesboro, Iowa, April 13, 1875. He is prominent in educational and social circles, and during the war was chief of the conservation division of the United States Food Administration, of which Mr. Hoover was the head.

As anticipated, Andrew W. Mellon was retained as Secretary of the Treasury and James J. Davis as Secretary of Labor, while Robert Patterson Lamont of Chicago, well known engineer, was given the position of Secretary of Commerce. Other members of the Cabinet are Henry L. Stimson, former governor general of the Philippines, Secretary of State; James W. Good of Iowa, former member of Congress, Secretary of War; Charles Francis Adams of Massachusetts, Secretary of Navy; William D. Mitchell of Minnesota, Attorney General; Walter F. Brown of Ohio, former Assistant Secretary of Commerce, Postmaster General, and Arthur M. Hyde of Missouri, Secretary of Agriculture.

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The Guiberson Underreamer has oversize cutters, tapering into the body with a dove-tail fit. It has the strength to stand a stroke that is much longer and faster than the ordinary underreaming stroke—reaming a larger hole and reaming it more rapidly. The head and tongue are forged as one piece from a solid steel billet. Every difficulty encountered in underreaming has been guarded against in the construction of this typically superior Guiberson tool.

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# North and West Texas Field Notes

H. H. KING, *Staff Representative, Fort Worth, Texas*

# Southwestern Ward County Gets Second Well

SAN ANGELO. — Southeastern Ward County added its second oil producer during the past week when Atlantic Oil Producing Company and Delmar Oil Company's 1, an offset to the Shipley discovery well, began flowing by heads at the rate of 100 barrels daily after drilling 12 feet in pay to 2485 feet. This new producer is to be placed on the pump and tankage is being provided to store the oil at the well. The two wells in the Shipley pool are the only commercial oil producers in the West Texas district without a market outlet although proration rules limit same in areas.

Completion of two shallow wildcats in northern Pecos County have been delayed by casing jobs. Pecos Valley Oil Company's Fee 2, a northeast offset to the same interests discovery well, flowed about five barrels of clean oil per hour late last week on a 10-hour test from pay at 1617 to 1625 feet. This producer was drilled in several weeks ago, but had to be filled several hundred feet with rock to make a casing seat for the cementing of a string of six-inch at 1585 feet.

McCarty Oil Company's wildcat test on the Gray land, located about five miles to the southwest, is having trouble in pulling casing to reset while in the meantime the well is slopping over with oil and some water. This test drilled eight feet of sand to a total depth of 1170 feet.

In the Llano pool, Winkler County, Gulf Production Company's Scarborough 1 began showing oil and gas from upper pay at 2987 feet with increases at 3017 to 3019 feet and also at 3025 to 3037 feet. This test is drilling in white lime at 3045 feet with 2000 feet of high gravity oil in the hole at last reports. Shell Petroleum Corporation and Llano Oil Company's Scarborough 4 is flowing 115 barrels of clean oil daily at 2990 to 3132 feet.

A sizeable development campaign for the Shipley pool, is to be brought about by direct offsets created by the first two producers completed, and those being drilled by the J-H-L Oil Company on its 80-acre lease. The pool was discovered early last November when the Shipley Oil Corporation's S. F. Hayzlett 1 began flowing by heads from top of pay at 2481 feet. This well is making about 55 barrels daily, or about one-half of its initial output, and is located in the north corner of the northeast 80-acres of the south quarter of Section 17, Block 5, H&TC survey. The J-H-L Oil Company is drilling two tests in the northeast and southeast corners of the southwest 80-acres of the same quarter section, thereby giving the discovery well owners two offsets, and causing Gulf Production Company and the Atlantic-Delmar interests to drill a pair each.

Atlantic Oil Producing Company and Delmar Oil Company pooled their acreage in vicinity of the Shipley pool, and in part consideration the former is to drill three tests on separate tracts. Atlantic Oil Producing Company is to operate the properties and provide a market outlet or storage. These interests' first producer began flowing by small heads February 28 after drilling five feet into the sandy-lime pay, which was topped at 2473 feet, with a surface elevation of 2504 feet. The well swabbed and flowed at rate of 10 barrels per hour March 1 at a total depth of 2485 feet. Atlantic Oil Producing Company is erecting four 500 barrel tanks to store the oil as produced, and when the crude output of the pool justifies a direct line, the Atlantic Pipe Line Company will extend its system from Winkler County.

### Shallow Production Record

Unusual wells in the Yates shallow field are not uncommon, but Marland Production Company established a new production record for shallow depths last week when its Yates 1-A (shallow) bailed 250 barrels of clean oil per day at 59½ feet after setting 8¼-inch casing with perforated joint at 54 feet. This oil is coming from wells completed in the regular horizon, but with faulty casing seat, and has worked its way up to the shallow sand, which is normally a fresh water horizon. Marland Production Company drilled a water well in the northeast corner of Section 60, and near the above producer, in 1927, but it became contaminated with oil in June, 1927, and had to be shut in. This particular water well was cased with 8¼-inch casing at 96 feet, with a total depth of 135 feet, and when cleaned out in the middle of February pumped 225 barrels of oil and a like amount of water. It is now pumping about 200 barrels of net oil daily and a slightly greater volume of water. However, these wells are profitable to operate, and more shallow locations have been staked by Marland Production Company for immediate drilling.

The Yates field came through with another record sized producer during the past week when the Mid-Kansas Oil & Gas Company and Transcontinental Oil Company's I. G. Yates 28-B gauged 4,057.18 barrels of clean oil on one-hour test, flowing through two 6⅝ and one four-inch lines from regular pay at 1168-1325 feet. This is not the record for the field, but is the largest scored in recent months. It is on an inside location.

Estimated potential daily production of the Yates field at the close of February was 4,670,096 barrels from 295 completed wells, according to figures released by Umpire Ray Richmond. Three new wells were added during the past period, and only one old producer was re-tested. The allowable production for the field is 87,500 barrels daily, but a maximum of 100,000 barrels has been authorized by the Texas Railroad Commission when Illinois Pipe Line Company and Humble Pipe Line Company complete facilities to handle the increase to tidewater.

Simms Oil Company and Southwest Oil Production Company's Sealy 1, located nearly a half mile due south of the discovery well of the O'Brien pool, Winkler County, increased its production to 295 barrels of oil on swab during 13 hours gauge after drilling pay at 2970-94 feet, but water broke in after this test. The well will be plugged back several feet and put on pump. Humble Pipe Line Company has agreed to run the oil for purchase. Independent Oil & Gas Company's Morton-Russell 1, located slightly more than a half mile northwest of the O'Brien pool discovery well reduced

prospects of this area being connected up with the south end of the Hendrick field when sulphur water was encountered at 3025 feet. This test was fishing for bit at 3095 feet early this week.

Natural flow of the Texon Oil & Land Company's University 1-B, which has distinguished the Big Lake field with the deepest producer in the world, remained well above the 2000-barrel mark during the seven day period ending March 4, when the well gauged 2,050 barrels of 56° gravity (corrected) clean oil and 20,200,000 cubic feet of gas. The peak flow was reached two days previous when 2065 barrels of oil was produced. This well is producing from pay at 8500-8523 feet.

## Second Producer Makes 320 Barrels

Coleman, Texas.—The Weaver shallow oil pool in eastern Coleman County scored its second flowing well late last week when the Herbert Oil Company-McDonald & Campbell's L. Weaver 2 produced at rate of 320 barrels of 44 gravity oil daily after drilling 10 feet of sand to 1823½ feet. This new producer is located in the northeast corner of Lot 16, Andrew Gabel Survey No. 271, and is a south offset to the same parties' first producer, which was brought in February 1.

Prior to completion of this second producer, Vacuum Oil Company purchased a half interest in the two-thirds interest Herbert Oil Company held in the 80-acre lease, and assumed operating control February 26.

Shell Petroleum Corporation is drilling an east offset to the new producer, while Broderick & Calvert, Fort Worth operators, are nearing the pay with their first test, which is east of the first producer and north of the Shell test. Prairie Pipe Line Company is running the oil.

## Production Course

State College, Penn.—At the opening of the second semester of the college recently, a new instructional course in oil and gas production was started by the school of mines and metallurgy of the Pennsylvania State College. The instruction is in charge of Professor C. A. Bonine, and includes a study of natural gas and the development and production methods involved in petroleum production engineering.

The new educational project is receiving the cooperation of leading men in the oil and gas industries of the state. These men who form two advisory boards, one in natural gas, and the other in petroleum, are interested in the development of instruction along these lines of industry. They are also assisting the school of mines and metallurgy of the college in establishing a research program designed to aid the oil and gas industries of the state.

# Expect Record Attendance at Geologists Meeting

FORT WORTH, Texas.—The American Association of Petroleum Geologists will hold its fourteenth annual meeting here beginning Thursday, March 21 for a three-day session. Early reservations for hotel accommodations forecast an attendance of approximately 2000 geologists, representing all the important oil producing areas in the country, while a number of visitors from foreign fields will be present. Convention headquarters will be located in The Texas Hotel, which was the meeting place of the annual gathering held in Fort Worth some years ago.

The program and entertainment committees have completed all preliminary arrangements for the convention, with the principal entertainment features scheduled so as not to distract from the business sessions. A complete rodeo show, which will be made up of nationally known performers, has been engaged to entertain the visitors on the night of March 22, with a barbecue preceding this event.

Attendance at the Fort Worth meeting is expected to establish a new record for the association, owing to the central location of the city in relation to the active Mid-Continent fields, and presence of an unusual number of geologists in West Texas. An unusual number of papers and lectures pertaining to geophysics have been included on the program as an added attraction to the large number of geologists engaged in this type of work in the Gulf Coast district.

Reduced railroad rates will be available to the visitors who obtain certificates when purchasing their tickets, although many plan to make the trip by automobile.

The annual A. A. P. G. Golf Tournament for the Bostick trophy will be held on the afternoon of the second day of the convention, while bridge will be provided for those not partaking in this event.

Robert T. Hill, who is a nationally known authority on geology and a former resident of Texas, is scheduled to deliver a lecture on the "History of Geology" and also "Life of the Big Bend Country (West Texas)." This lecture will be given Thursday evening at an auditorium, near convention headquarters, and the general public will be invited. An informal dance at The Texas Hotel will be staged for geologists and their ladies at the conclusion of this lecture.

Many of the visiting geologists are expected to make field trips to the West Texas flush oil areas and to Coastal domes at the conclusion of the Fort Worth meeting, but the program committee is not making any effort to organize such parties, although individuals or groups desiring assistance or information in planning itineraries will be taken care of.

Members of the Fort Worth Geological Society have assumed the responsibility of making the fourteenth annual meeting of the association a success, and have furnished most of the personnel for the various committees, which are listed below:

General Committee: J. Elmer Thomas, chairman, Fenner & Neahe; W. R. Berger, Southland Royalty Company; J. Earle Brown, Tidal Oil Company; C. P. Watson, Federal Royalties Company; Ford Bradish, consulting geologist; H. B. Fuqua, Gulf Production Company; David Donoghue, Texas Pacific Coal & Oil Company; B. E. Thompson, Gulf Production Company; and R. A. Liddle, Pure Oil Company.

Program Committee: R. A. Liddle, chairman, Pure Oil Company; F. B. Plummer, University of Texas; Roger Dennison, Amerada Petroleum Corporation; Paul Applin, Cosden & Company; R. H. Fash; and M. G. Cheney, Anzac Oil Corporation.

Entertainment Committee: J. Earle Brown, chairman, Tidal Oil Company; R. R. Thompson, consulting geologist; V. C. Perini, consulting geologist; Paul Buttermore, Transcontinental Oil Company; and E. T. Merry.

Publicity Committee: Ford Bradish, chairman; Allan Bruyere and N. B. Livingston, The Texas Company; and R. J. Metcalf, Transcontinental Oil Company.

Reception Committee: H. B. Fuqua, chairman; Roy Reynolds, consulting geologist; and C. S. Miller, Tidal Oil Company.

Registration Committee: David Donoghue, chairman; E. B. Stiles, Pure Oil Company; and W. W. Patrick, The Texas Company.

Arrangements Committee: B. E. Thompson, chairman; Claud Dally and C. E. Yager, Texas Pacific Coal & Oil Company.

## Tests in Gonzales County Miss Production

Luling, Texas.—Cranfill & Reynolds, Inc.'s F. Webb 1, a southeast offset to the Empire Gas & Fuel Company's wildcat producer on the Mrs. R. M. Norwood land, Gonzales County, failed to encounter the pay, and has been ordered abandoned at 4281 feet after topping the Dobie lime at 4260 feet. This test is only 480 feet from the discovery well, which is pumping 120 barrels, eight per cent. water, daily at 3779 feet. Indian Petroleum Corporation's L. F. Karnstadt 1, located southwest of the producer, had not encountered the Austin Chalk formation, although drilling at 3835 feet early this week.

# Earliest Mention of Petroleum In New World Was Mexican

By GEORGE BLARDONE

INSOFAR as written records are concerned the first description of the occurrence of petroleum in the western hemisphere can be found in the voluminous writings of Father Sahagun, who came to Mexico in the years immediately following its conquest by Cortez in 1520-1521. Father Sahagun's description was destined to be followed by the military recollections of Bernal Diaz, one of Cortez's able lieutenants, who records that wooden torches impregnated with "chapopote" were used by the Indians in Tabasco for illuminating purposes. These records antedate by nearly a century the first mention of the occurrence of petroleum in what is now the United States; the latter being a description in 1629 by a Franciscan missionary of an oil spring in the present state of New York.

Father Sahagun found chapopote for sale in the market place in Mexico City, and he described it as a "bitumen that comes from the sea and is similar to Spanish tar, being easily decomposed. . . . When burned it gives off a great odor. . . . . This bitumen, mixed with copal, or incense of the country, is a good incense."

Not only was chapopote used as an incense but that it was also used as a binder for the cement employed in joining stones and rock slabs is evidenced by the ruins in Yucatan and the pyramids in the valley of Mexico. Further, it was employed as a medicine, which was the use made of it by the North American Indians, as described by the Franciscan missionary referred to. In fact, the Aztec symbol for the goddess of healing resembles a vessel filled with chapopote. The studious Prescott, in his "Conquest of Mexico," relates an incident taken from the history of the Acolhuans, founders of the ancient city of Tezcuco, which is now a suburb of Mexico City, wherein a prince of the family of the founders escaped his enemies by having his loyal attendants suddenly charge a burning censer with fresh "incense," which immediately raised such a pall of black smoke that it covered the prince's retreat from the reception hall of the palace. The perpetual fires on the high altars on the roofs of the great teocallis (temples—literally: "Houses of God") of the Aztecs were probably kept burning with fuel of the same asphaltic base, as Prescott is at some pains to describe how quickly these fires could be refreshed to a bright glow; and what a haze of black smoke hung over the city when they smoldered. Refreshing the smoldering fires on the altars of the teocallis until they glowed with bright flames was one Aztec method of signalling a general alarm throughout the capital city. It was this sudden flaring of red flames, coupled with the deep roll of the temple drums, that apprised Cortez that his evacuation of the town was discovered, and lead to the sanguinary retreat along the western causeway, a retreat that has been immortalized as "La Noche Triste."

The term "chapopote" is derived from the Aztec "tzuac," meaning paste or cement; and "popochile" meaning perfume. It was formerly used to denote only the product of exudes, but it is now frequently used in the oil fields in Mexico to denote the actual product from flowing wells.

The chapopote used by the Aztecs must have been secured from the exudes south of the Tuxpan River in the country of the Totonacs, a small buffer tribe; or it was secured in the course of trade and barter, for the highly cultured Aztecs were never able to subdue the fierce Huastec Indians, who were an offshot from the Mayas. The Huastecs occupied the region that was bounded on the north by the upper lagoons of the Rio Tamesi, south to the Rio Tuxpan, and from the coastline west to the foothills of the Sierra Madre Oriental. They were principally hunters and fishers, albeit they lived in villages of adobe and thatch much as the survivors do in this day. Their territory, as the boundaries indicate, encompassed the oil fields that were destined to make petrolific history at a later day, and was rich in petroleum seepages. The Totonacs occupied the country south of the Rio Cazones, known as the Papantla-Misantla district; and in the first named is the present oil field of Furbero, near which is Cougas Springs, of which more in due place. South of the territory of the Totonacs was the line of Aztecian military posts and fortified towns, marking the northeast boundary of that extensive empire.

DeGolyer, who has been a close student of the earlier history of petroleum in Mexico, believes that the first official recognition of petroleum occurred in 1864, when, according to a note in the Memoria da Fomento, permission had been granted to one Ildefonso Lopez to exploit certain deposits of petroliferous substances in the San Jose de la Rusias district of the State of Tamaulipas. Other permissions were granted in 1865 for similar exploitations in the same state. No doubt these permissions only contemplated de facto exploitations of exudes, for it is hardly reasonable to assume that the significance of Colonel Drake's discovery well in Pennsylvania, only five year before, had penetrated abroad in so short a period. Certainly these early permissions to exploit petrolific deposits in the State of Tamaulipas did not result in any wells being drilled insofar as any written record is concerned.

The first well actually drilled in Mexico was located at the Cougas oil springs, in the Canton of Papantla, State of Vera Cruz, a sector that is now known as the Furbero field. These springs, or live seepages, were first discovered in 1868 by the late Dr. Autrey, an American resident of Tampico. It appears he found some workings of antiquity there; and the deposits were apparently known only to the Indians (Totonacs ?) resident in that locality. The news of these seepages evidently was communicated abroad, however, for in the year following (1869) the company, Cia. Explotadora del Golfo Mexicana, was formed in Mexico City; the Cougas deposits were denounced; refining and drilling machinery imported, and a well was drilled 125 feet. The drilling operation was not a success, however, and the hole was abandoned. The company then drove a tunnel into a small hill near the largest seepage. A flow of oil equal to about four barrels a day resulted; and 200 cans of petroleum was refined in the small still that had been erected for that purpose. The company then failed and operations were abandoned. This was the unpropitious beginning of Mexico's petroleum industry.

In the course of the next 10 years several writers discussed Mexico's petrolific possibilities. John C. Spear reported seepages and other indications in the Isthmus of Tehuantepec as early as 1872; Don Alexandro Prieto, the historian, described the occurrence of numerous exudes along the banks of the Rio Tamesi in 1873; and shortly afterward unsuccessful attempts were made to mine asphalt deposits in Potrero El Cristo, south of Tempoal, in the State of Vera Cruz.

In 1880, Dr. Autrey, the original discoverer of the Cougas oil springs, denounced the abandoned properties of the Mexico City company and commenced operations on his own account. He set up one of the abandoned stills in the village of Papantla, moved the production from the springs to it on the backs of burros, and so succeeded in refining 4000 gallons

# "If Continental sells it – there is no better"

**EMSCO STEEL EQUIPPED WELLS ARE SAFE**

of kerosene. This kerosene was then transported to Mexico City by mule train and sold. This was the humble commencement of the refining, transporting and marketing industry in the republic. It soon ended, however, lack of sufficient seepage production being the cause.

The next 20 years, or more, saw but little effort made to secure production. Around 1881 to 1883, a Boston company drilled two wells not far from the present Potrero del Llano pool. Canadian pole tools were used; and the holes were reported as being drilled around 400 feet. The first hole slopped two or three barrels of oil. The project was abandoned. One well was drilled in the valley of Mexico, near Guadalupe, and several bottles of light oil were reported from it. In Tabasco a well was drilled at Hacienda San Fernando, but was abandoned although it had a showing of oil. In 1889, a well was drilled 131 feet near a seepage in San Jose de la Rusias, in the State of Tamaulipas, but nothing resulted.

In 1883, the law vesting the ownership of petroleum deposits with the proprietors of the surface soil was passed. It is this law that the constitution of 1917, through its Article 27, abrogates. The first lease of record under this law of 1883 was made in 1892, when an American leased 2500 hectares (2.47 acres equals one hectare) of land inthe Furbero district, the lease including the Cougas springs.

Operations on a more comprehensive scale commenced in 1900. In that year several Mexican citizens leased Sabaneto, Tulapilla and Comalteco in the State of Vera Cruz, transferring the property to a company known as Mexican Petroleum & Liquid Fuel Company, Ltd., in which the late Cecil Rhodes was interested. In the next two years this company drilled 20 wells in these properties, all of which were failures although some of them were drilled as deep as 1500 feet. In this year the Doheny-Canfield interests purchased the Ebano property of 456,000 acres; and the next year saw the drills that were destined to prove the first commercial pool in the republic commence hole making in that district.

Meanwhile, in 1898-1900, crude asphalt from seepages was being taken from deposits in Chapopote-Nunez (now the property of the Huasteca Petroleum Company) bordering on the Rio Tuxpan, and, also, from Cerro Veijo, eight miles north of that stream. This crude product was boxed, transported in canoes to Tuxpan, from whence it was dispatched to sea, probably being exported to the United States. Some 2000 tons totalled this particular movement.

In 1902, A. H. Carner and A. L. Barber, the latter representing the Barber Asphalt Company, secured oil and asphalt leases on 80,000 acres of land scattered from San Geronimo on the north to Cerro Azul on the south. A small asphalt refinery was erected on Estero de Carbajal, at San Geronimo, to clean the product of dirt and water. No wells were drilled, it appears, the crude asphalt being secured from seepages which were quite prolific, especially in Cerro Azul. This was the first asphalt refinery in Mexico; and its product is reported to have analyzed 95 per cent. pure bitumen. Probably not more than 1000 tons of asphalt was manufactured and shipped from this plant before it was shut down and eventually abandoned. In 1906, Carner and Barber sold their lease holdings to the Doheny-Canfield interests. This marked the entrance of the latter group into the prolific south fields district.

Apart from the activity of the Pearson interests in the Isthmus of Tehuantepec, and the Doheny-Canfield interests at Ebano, the next few years were featureless from an exploration viewpoint. In 1904, Doheny-Canfield's Pez 1 came in at Ebano for 1500 barrels, Mexico's first commercial well. It was not to be finally closed in and abandoned until 1924. In the same year, Oil Fields of Mexico, Ltd., a Pearson interest, finished its first producing well at Furbero. Much faith was had in this pool at the time. A narrow gauge railroad was constructed from the pool, north to Rio Tuxpan, a distance of 60 miles; and a pipe line was laid to handle the production. To this day, however, the pool has scarcely produced two million barrels. For many years no drilling was attempted and only a few wells have been completed in the past two or three years. Furbero, up to eight years ago, boasted the deepest well in Mexico in its No. 19, which was finished at something more than 4600 feet. Parentheticallly, it might be remarked that the deepest well in the republic at this time is considerably more than 5000 feet, although deep holes are exceptional in all pools extant.

In 1905, the Pearson interests proved the San Cristobal field in the Isthmus of Tehuantepec; and shortly afterward commenced the construction of a refinery at Minititlan, hard by.

In 1907-1908 interest was centering around San Geronimo and San Diego, which are divided by the Estero de Carbajal, the latter pool marking the farthest north of the south fields district. Several wells were drilled, and the Pearson interests had practically proven San Diego for a pool, when its No. 3 there—better known as "Dos Bocas"—literally "blew in" July 4, 1908, Mexico's first great gusher. It caught fire as it came in. All attempts to save the well were fruitless. In October of that year the fire was extinguished by an immense flow of hot salt water, which continues to flow in tremendous volume finding an outlet in the neighboring Laguna de Tamiahua. This ruined the San Diego field.

The next year, the Doheny group brought in the first two wells in the little valley of Juan Casiano. They were small producers and created little interest at the time.

The next year, 1910, was epochal. It saw the completions of Juan Casiano 7 for the Doheny group; of Potrero del Llano 4 for the Pearson interests; of Panuco and Topila. It is with the year 1910 that the economic petrolific history of Mexico really commences.

# Company Formed; Build Gas Line to Atlanta

Shreveport, Louisiana.—Major interest in new drilling in the Shreveport territory centered during the week on the Monroe and Richland gas fields.

This interest was stimulated by formal announcement that construction on a 1000-mile pipe line from Monroe and Richland fields to Birmingham, Alabama, Chattanooga, Tennessee, and Atlanta, Georgia, will start within the next six weeks.

The project, the announcement said, will be completed by December 31. The Southern Natural Gas Corporation, which is backing the project, has been capitalized for $35,000,000. It is planned, according to W. B. Johnson, who made the formal announcement, to have a 24-inch line at the source graduating down at service points in the larger cities. The line, he said, will have a daily capacity of 120,000,000 cubic feet under high pressure.

The trunk route of the line, it was announced, will pass through Yazoo City, Vicksburg, Jackson, Meridian, Macon and Columbus Mississippi, thence to Tuscaloosa, Selma, Prattville, Centerville, Montgomery, Birmingham, Bessemer, Gadsden, and Anniston, Alabama; Chattanooga, Tennessee; Cedartown, Rome, Cartersville, Rockmart, Marietta and Atlanta, Georgia and thence south to Macon, Georgia.

Coming as the announcement does within a few weeks of definite announcement of early starting of a line from Monroe and Richland to St. Louis, Missouri, and intermediate points, another spurt of activity in these two fields is anticipated. There has been an appreciable increase of drilling in these areas since the launching of the St. Louis line.

It is reliably reported that a large wildcat drilling campaign will be launched during the spring and summer in northeast Louisiana in an effort to discover additional gas production. There have been but few recent efforts to extend the present gas producing areas.

### Possible Gas Regulations

Variable gas pressure existent in the Trinity sand horizons of Cotton Velley field in Webster Parish, Louisiana, may result in new regulations for gas withdrawal in that horizon of the field, it was indicated Saturday when operators held a conference here with conservation commission officials. Revised regulations may be issued.

The lenticularity of the deep horizons in Cotton Valley is blamed for the variable gas pressure. A high rock pressure may be encountered in one well while an offset may have an extremely low rock pressure.

A regauge of the Trinity gas wells in Cotton Valley and working out of a new schedule of withdrawals is regarded as probable. Only two large oil wells so far have been completed in the deep Cotton Valley pay, both on the Bodcaw lease. From this lease the name of Bodcaw sand has been given the Trinity in that field. Seven strata of the Bodcaw have been classified.

# News From California Fields

BRAD MILLS, *Staff Representative, Los Angeles, California*

# Seventh Santa Fe Springs Sand Found at 7800 Feet

LOS ANGELES—With the discovery of an oil zone at 7800 feet—the seventh oil-bearing formation in the field—Santa Fe Springs attracted fresh interest during the week and served notice that it probably would remain in the critical class for many months to come.

The new zone was found by the Associated Oil Company in Clark 2, which incidentally was the discovery well in the Clark zone at 7320 feet and which has developed into one of the most important tests ever drilled in California. Two cores totaling 30 feet were taken and both showed a very good oil sand, with occasional streaks of shale. The success of the well will depend upon the thickness of the zone, which now stands at only 30 feet.

Hardly considered a representative well because of its location, Clark 2 does not necessarily need to produce to prove a territory almost as large as the entire field. The well is located in the extreme western part of the field, and 50 feet of oil sand here might mean fully 300 feet nearer the center of the structure. While a producer in the Meyer zone, the well completely missed the Buckbee sand. The discovery of a still deeper sand would indicate a very thick body well within the field. The well is strictly a pioneer effort and to it probably will go the honor of opening up at least two distinct zones.

One of the most important phases of the discovery is the belief that the new zone is in the Upper Miocene, from which the bulk of deep production in the Long Beach field is coming. If such proves to be the case, Santa Fe Springs probably will be an important factor in California production 10 years hence. The dividing line between the Pliocene and Miocene has been placed at 7525 feet, in this particular location, throwing the upper Clark zone, found at 7320 feet, in the Lower Pliocene and the lower Clark formation, just found at 7800 feet, in the Miocene.

Stratigraphically, Clark 2 is located about 600 feet lower than wells in the center of the field. This means that inside wells probably would find the zone around 7300 feet. There is also a chance that center wells could produce both the upper and lower Clark zones, although such a theory is based on guesswork.

From a mechanical standpoint, Clark 2 is the most interesting test in the field. The last casing, a string of 8¼-inch, was cemented over the Meyer zone at 4506 feet. The well has more than 33 feet of open hole. The upper Clark zone was about 50 feet thick, but it was not necessary to run a string of casing for this sand. If the lower Clark zone is tested, the longest string of casing ever run will be required.

### Conservation Plan

Conservation committees have hastily considered measures to prevent the development of all zones below the Buckbee, but the same difficulty that was met in efforts to curtail operations in the Buckbee zone are in evidence. The committees are also handicapped because it is impossible to tell whether the O'Connell and Clark zones will prove one body near the center of the field.

Additional pressure is being brought to bear on operators, in an effort to prevent the state from taking a guiding hand in the industry, but the same reasons that have always prevented favorable action are now standing in the way. The deeper the wells are drilled the fewer will be the completions, even if they are larger.

The Buckbee zone has temporarily been crowded into the background by new developments, but it is still this formation that is producing nearly all of the oil. Despite a rapid decline of the older wells, the field total remained around 200,000 barrels. Eleven wells were completed with a total initial production of more than 35,000 barrels. The field decline was about 33,000 barrels from 100 deep zone wells, or 330 barrels per well per week. One or two wells were placed back on production, while an equal number stopped flowing.

By correlating formations cut in California Eastern Oil Company's Santa Fe 2, it seems assured that it will be possible to produce both the O'Connell and upper Clark zones with one string of casing. Although there was a slight break in this well, its location near the edge of the structure practically assures a production from both zones at once. This is a most important development and means that it may be possible to include from 300 feet to 500 feet of oil sand near the apex of the structure. California Eastern Oil Company is now coring below the level at which George F. Getty stopped O'Connell 19, the discovery well in the O'Connell zone. If the two zones are produced together, it will simplify casing matters and will allow many wells to reach the Clark zones, which would not be the case if separate strings of casing were required.

### Making Water

George F. Getty is allowing O'Connell 19 to flow, although it is producing 1500 barrels of free water with the 1200 barrels of oil. No attempt will be made to correct the condition of the well, pending further developments. George F. Getty is drilling a well on each side of O'Connell 19 and it is expected that these two wells will automatically prove the source of the water. O'Connell 19 is producing through a string of 4¾-inch casing, making it a very difficult problem to shut off the water, even when its approximate location is found. Both of the wells offsetting O'Connell 19 will be drilled deeper than the discovery well. They will also prove interesting, in that they will throw additional light on the thickness of the O'Connell zone and the possibility that the O'Connell and Clark zone may be produced together.

Thirty wells are now drilling below the Buckbee zone, and of these, 10 are coring in the O'Connell zone. More than 20 wells are idle, awaiting developments in the lower zones. A few good completions would send at least 25 more wells toward the deeper zones. It is largely for this reason that the conservation committees are working feverishly on a plan of curtailment or downright suspension before the O'Connell and Clark zones prove their caliber.

Richfield Oil Company is ready to make a production test in Elliott 2, the second well to find the Clark zone and regarded as a critical test from several angles. The success of this well would open up a wide strip which failed to produce in the Buckbee zone and would give center wells

a chance at more than 500 feet of sand below the top of the O'Connell zone.

Shell Oil Company is ready to complete Slusher B-1, in the O'Connell zone, at 6522 feet. The top of the formation was found at 6420 feet, giving the well about 100 feet of sand. This is also an important test, and it is expected to determine the relative values of the Buckbee and O'Connell zones. The former failed to produce satisfactorily on the Slusher lease. A good well at this point would open up a large area in the southwestern part of the field which failed to produce in the Buckbee.

The Nordstrum or Intermediate zone, which started off with so much promise, has fallen by the wayside, with only a few wells remaining to be completed in it. George F. Getty's Nordstrum 17, the discovery well, is still producing 3500 barrels.

The total number of drilling wells is 172, of which four are ready to be completed in and 10 cemented over the Buckbee, three are ready for completion in the Nordstrum, 44 are drilling between 5000 feet and the top of the Buckbee, 30 are drilling below the Buckbee and the remainder drilling above 5000 feet.

Isolating the O'Connell and Clark zones, the field is undoubtedly ready for a steady decline. Production may wallow around 200,000 barrels for a few weeks, but if the conservation committee can bring about curtailment of operations in all zones below the Buckbee, the field total will drop steadily, if not rapidly. If the field is thrown wide open, it is headed for still higher levels. Even in this case, however, there would be an appreciable drop from the Buckbee zone before a large production could be obtained from the lower zones.

**Week's Completions**

An analysis of the week's completions shows an average initial production of more than 3000 barrels. All of these wells but two were finished in the Buckbee zone, showing that the sand is still full of life. Failure of the field to start downward on schedule is attributed to the sustained gas pressure in the zone. Although a fairly thin formation, it has produced remarkably well for its area.

The outstanding completion of the week was the Bandini Petroleum Company's Off 9, which came in with an initial production of 7000 barrels from 5835 feet. The oil was 34.2 gravity and showed only a small cut.

Other large wells included Union Oil Company's Howard 9, a 4700-barrel completion at 5325 feet, General Petroleum Corporation's No. 146-A, a 5200-barrel producer from 6038 feet, Richfield Oil Company's Pettitfils 1, completed at 5910 feet with an initial production of 4600 barrels, and Bandini Petroleum Company's Off 7, which came in with an initial production of 3700 barrels from 5880 feet.

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Los Angeles—The annual meeting of stockholders of the Richfield Oil Company of California will be held in the office of the company, Los Angeles, at 2 p. m., March 21.

## General Petroleum Leads at Kettleman Hills

Coalinga, Cal.—General Petroleum Corporation has taken the lead in the Kettleman Hills field, having successfully landed a string of 6⅝-inch casing at 6510 feet in Oeschner 2. This is approximately the depth at which the final shutoff was made in the discovery well. With a handicap of more than 2500 feet, Oeschner 2 is expected to be the next completion in the field.

Standard Oil Company, owner in fee of more than 33,000 acres on the structure, is making fast time in No. 81, which is now drilling below 4200 feet. The company has three more drilling wells in the field and three locations which will be reflected in the drilling column within 10 days.

Milham Exploration Company, discoverer of the field, started another well during the week, bringing the total active operations to three.

Marland Oil Company, Ohio Oil Company, George F. Getty, Inc., Shell Oil Company and Associated Oil Company each have at least one well under way.

## Fruitvale Well Shut In After Production Test

Bakersfield, Calif.—Pacific Eastern Production Company, discoverer of the Fruitvale field, continued its success in that area during the week with the completion of No. B-7 as a 1500-barrel producer. The well was shut in after a short test. This company has developed a large production in the field but is marketing only a small amount of the potential yield.

Shell Oil Company has reached 5940 feet in K. C. L. 1, an outpost test, but failed to get any of the sands found in the various producing wells.

## Seventh Elwood Test Due For Early Completion

Santa Barbara, Calif.—Doty 3, the seventh well in the Elwood field and one which is expected to throw additional light on the trend of production, is due for completion next week. This important test of the Barnsdall Oil Company and Rio Grande Oil Company, joint operators in the field, is located nearly one-half mile down the coast line from the discovery well and checked considerably lower on structure than any previous completion. The 8¾-inch shutoff string was cemented at 3458 feet, or about 300 feet lower than in the discovery well.

Production from six wells in the field remains just under 24,000 barrels. All are beaned down and would produce more oil if allowed to flow at a maximum rate.

Elwood Community 1, located about 6000 feet from the discovery well, is drilling at 4875 feet in the Sespe shales, with occasional streaks of oil sand. This well is the only failure drilled thus far by Rio Grande Oil Company and Barnsdall Oil Company, but its position as an outpost well tempers the failure to find the producing sand.

Other outpost wells have failed to find the producing sand, definitely confining the structure to a strip along the ocean. J. E. O'Donnell has abandoned Campbell 1 at 5500 feet, having found only slight showings. Cady Oil Company has shut down Bishop 1 at 4400 feet, or several hundred feet below the point at which the producing sand was expected. Petroleum Securities Corporation has cemented a string of nine-inch casing at 5025 feet in Storke 1 to test a sand found at this point. Several other wells nearby are idle.

## Ready to Test Continental Well Near Carpenteria

Carpenteria, Cal.—Continental Oil Company's Franklin, a mystery well near this place, will be tested next week, a string of 6⅝-inch casing having been successfully landed and cemented at 3965 feet. This well developed a very high gas pressure, which was controlled by the use of hemeatite and barite. Cores failed to reveal a definite oil sand, but they were taken under extremely adverse conditions. The well is bottomed at 3990 feet. The Carpenteria structure bears a slight resemblance to both Rincon and Elwood, the former a few miles down the coast and the latter about 20 miles up the shore line.

## Potrero

Los Angeles—Failure of the Associated Oil Company's Potrero 1 to produce from a zone far above the formation now producing in the discovery well gave the upper formations a still more fractured appearance and partially confirms the theory that the main producing sand lies considerably below 3500 feet. The well was drilled to 3440 feet, a string of 13⅜-inch casing cemented at 3265 feet, the hole cleaned out to 3275 feet and a bailing test made for a water shutoff. Continued bailing and swabbing failed to remove all of the water, while the well showed no inclination to flow from below the shoe of the 13⅜-inch casing.

## Midway

Taft, Calif.—The extent of the deep sand found a year ago in the western part of the Midway field is still as much in doubt as when the discovery was made. Several wells started within a radius of three miles after completion of the Republic Petroleum Company's deep well on Section 8-32-23 have failed to find the sand. Union Oil Company's W. P. 1, which showed some promise at 2000 feet, is drilling and coring below 3750 feet, with no definite zone in sight. Several other wells, originally started as deep tests, are now idle.

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*Say you saw it in The OIL WEEKLY*

# PERSONAL MENTION-MEN YOU KNOW

**Henry Aggers,** 86-year-old oil field worker, who was given a bronze medal at the International Petroleum Exposition at Tulsa in 1927 for being one of the three oil workers over 80 years old present, died at Ranger, Texas, February 28, after a short illness. Mr. Aggers' oil field career began in Pennsylvania in 1863, and he followed development into Texas, Oklahoma and California. In 1873 and 1874 he developed small production of his own, but low prices at that time kept him from building an organization around his holdings.

**Roy H. Bettis,** representative of the Bettis Sales Company, distributors of Bettis casing protectors, in the Mid-Continent and Gulf Coast territory, made a business trip to Oklahoma from his Houston branch office last week.

**W. W. Boggs,** secretary and treasurer of the Crescent Tool Company and a well known equipment man, died suddenly at his home in Los Angeles, February 21, a victim of a heart attack.

**Harry W. Berdie,** recently appointed manager of Public Relations for the Richfield Oil Company, gave a luncheon, February 21, to California and Eastern oil magazine writers. Mr. Berdie was formerly representative of the Wall Street Journal at Tampico, Mexico.

**L. J. Daly,** superintendent of production for The Texas Company in the Pampa, Texas, district, has been transferred to Denver, to become production superintendent for the Texas Production Company, and will be succeeded at Pampa by D. J. Gribbon.

**F. E. Bernsen** of Tulsa, vice-president and general manager of domestic sales of the Lucey Products Corporation; G. E. Campbell of Chattanooga, Tennessee, chief engineer of the pump department of the Lucey Manufacturing Corporation and R. S. Levering, of Houston, vice-president of the Lucey Products Corporation are making an extended tour and survey of the fields and operating conditions in the Gulf Coast.

**E. T. Sholtus,** assistant superintendent of production for the Shell Petroleum Corporation in the Winkler County, Texas, district, with headquarters at Wink, has been transferred to Smackover, Arkansas, to become district superintendent. H. B. McIntyre succeeds Sholtus at Wink.

E. H. SALRIN

*E. H. Salrin recently elected president of the Tidal Oil Company and Tidal Osage Oil Company. Mr. Salrin will continue to make Tulsa his headquarters for the present time but is expected to later move to New York City, and will divide his time between the two cities. Mr. Slarin has been in the oil business for the past 15 years. Prior to going with the Tidal Companies he was with the Laurel Oil & Gas Company. He has been in charge of the Tidal land department for the past three years after serving as secretary and treasurer for many years. He was also a vice-president of the company. Recently he was elected president of the Tulsa Club.*

**Robert W. McIlvain,** vice-president of the Pure Oil Company, with headquarters at Chicago, spent several days last week at the Texas-Louisiana division office in Fort Worth.

Artesia, N. M.—Jackson 1 of Flynn, Welch & Yates Oil Company in Eddy County, has increased its production upon having been drilled deeper by about eight feet. The well is making about 240 barrels of pipe line oil, and is being deepened. Its discovery made a considerable addition to the field to the eastward.

Field men in the oil producing industry are showing keen interest in a complete motion picture film on the manufacture of seamless and welded steel pipe which is being exhibited under special arrangement during February, March and April in practically all of the Mid-Continent, Southwestern and Gulf Coast fields.

The film is being shown in conjunction with lectures on seamless and welded pipe processes by A. E. Crockett, head of the educational department of the Jones & Laughlin Steel Corporation. Meetings for showing of the film are being planned by H. P. Quinn, Tulsa, and A. P. Holloway, Fort Worth, J. & L. representatives, and the Frick-Reid Supply Corporation, the Jarecki Manufacturing Company and Norvell-Wilder Hardware Company, all J. & L. distributors.

During February, Mr. Crockett showed the film and lectured in Smackover, Shreveport, Beaumont, Lake Charles, Houston, College Station, Luling, Dallas, Fort Worth, Amarillo and Borger.

In March, Mr. Crockett will exhibit the film and lecture at the following points, in the order named:

Pyote, Wink, Big Lake, Big Spring, Coleman, Eastland, Breckenridge and Wichita Falls, Texas, and Duncan, Healdton, Oklahoma City, Seminole, Bowlegs, Wewoka, Tulsa, Drumright and Bartlesville, Oklahoma. This schedule includes a lecture at the University of Oklahoma in Oklahoma City.

Mr. Crockett in April will cover the Kansas fields after returning to Texas April 3 and 4 to speak at the meeting of the Texas-Louisiana - Arkansas Division of the American Petroleum Institute in Dallas.

Rock Spring, Wyo.—One thing that the extreme cold weather in this part of the world has helped is the laying of the long gas pipe line from southwestern Wyoming to Utah. The under-river lines were laid last week, one 12-inch line and one 16-inch having been put down below the stream bed of the Green River. At the same time an emergency line of 10-inch pipe was laid.

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# Gulf Coast Field Developments

JACK LOGAN, *Staff Representative, Houston, Texas*

## Testing 14 Feet Oil Sand On Bayou Blue Dome

Houston.—On the Bayou Blue dome in Iberville Parish, Louisiana, Standard Oil Company of Louisiana has set 8¼-inch casing in preparation for testing 14 feet of oil-showing sandy shale at a total depth of 3648 feet in Schwing 1. This test was reported in Houston last week-end to have been completed as a 4000-barrel well, but a check-up Monday and Tuesday marked the rumor as erroneous. There is, however, considerable interest attached to the test in view of the important showings which it has had.

At 3250 feet, total depth, the test had 11 feet of sandy shale showing oil; but that sand was not tested, and the hole was carried down farther, topping the sand which is to be tested at 3634 feet.

Bayou Blue dome was discovered by seismograph in 1926, the geophysical work being done for the Calcasieu Oil Company. A large part of the acreage in the area is controlled by Standard Oil Company of Louisiana and jointly by Calcasieu Oil Company and Union Sulphur Company.

Prior to the drilling of Standard Oil Company of Louisiana's Schwing 1, only two other tests had been drilled at Bayou Blue. The first, Union Sulphur Company's Schwing 1, located 577 feet south and 239 feet west of the center of Section 74-9s-10e, was abandoned at 2850 feet without having had any important showings; and the second, Standard Oil Company of Louisiana's Wilbert 1, located 500 feet north and 500 feet west of the southeast corner of the SW SE Section 74-9s-10e, proved the presence of a dome, encountering salt at 4481 feet.

Schwing 1 is 500 feet north and 500 feet west of the southeast corner of NE NE Section 74-9s-10e.

The Standard Oil Company of Louisiana has under way a program contemplating considerable drilling at Bayou Blue, with several other locations staked, and some of them already made accessible by dredging out canals leading to them. Derrick is being built for Schwing 2 and Schwing 3 is a location; while canals have been dredged out to the locations of Wilbert 2 and Wilbert 3.

Bayou Blue dome is 12 miles due east of Bayou Bouillon, the nearest producing salt dome, and is only about nine miles west of the Mississippi River. Bayou Bouillon is in St. Martin Parish, and was opened for commercial production last spring by the Rycade Oil Corporation.

Beside Bayou Bouillon, there are several other salt domes within a radius of 15 or 20 miles of Bayou Blue; most of them being geophysically discovered domes. Grosse Tete or Bayou Choctau is six miles to the north of Bayou Blue; White Castle dome is 12 miles to the southeast; Bayou des Glaise is 12 miles to the northeast; Loreauville (Eagle Point or Fausse Point) is 16 miles to the southwest; and Napoleonville and Darrow are each about 20 miles away, being southeast and east, respectively.

## Fourth Lost Lake Test Hits Cap Rock

Houston.—Pure Oil Company has drilled into cap rock for the fifth time at Lost Lake dome, Chambers County, finding that formation in Lost Lake 2; each of four tests which the company previously finished there also having found the cap. The sixth test which Pure Oil Company, discoverer of the dome and sole operator there, has started is still drilling; it is Mayes 1, now down 1760 feet, in gumbo.

Lost Lake 2, latest test to go into cap rock, hit the top of it at 3943 feet and was still in it on Tuesday at 3993 feet. This test is 1500 feet southeast of Lost Lake 1, which found the top of the cap rock at 3623 feet; and is 4300 feet south and a little west of Lost River 1, which produced a little oil at 3670 feet and hit cap rock at 3951 feet. Old River Lake 1, the most southerly test of the dome, located 6700 feet southwest of Lost River 1, hit cap rock at 4947 feet. Thus Lost Lake 2 is on the south part of the dome, but east of Lost Lake 1 and Old River Lake 1. The most northerly test drilled at Lost Lake is Lost River 2, about 2000 feet northwest of Lost River 1; it hit cap rock around 3685 feet. Mayes 1, which is now drilling, is 1600 feet west of Lost River 1.

This dome was discovered by the Pure Oil Company in 1927, using seismograph; and in October, 1927, the first test was started: Lost River 1. At 3605 feet that well had an oil sand, in which screen was set, and some oil was bailed; it was then deepened to 3670 feet, at which depth a little oil, but not in commercial quantity, was bailed. It was subsequently deepened and finally abandoned in August, 1928, at 4697 feet in cap rock, having topped the cap at 3951 feet.

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The annual dance of the Houston Geological Society was held February 27 at Loma Linda. It was attended by members of the organization and their guests. The dance was under the supervision of George Sawtelle, vice-president and general manager of the Kirby Petroleum Company, who was chairman of the dance committee.

## Gasser Extends Raccoon Bend 3000 Feet

Houston.—The Raccoon Bend field, Austin County, was extended 3000 feet to the west at the opening of this week when Humble Oil & Refining Company completed E. Ueckert 1 as a gas well rated for 5,000,000 cubic feet. Depth of the hole is 1001 feet, approximately the same as numerous other gas wells at Raccoon Bend.

Ueckert 1 is the most westerly test yet drilled in the field. It is 3000 feet west and 1250 feet south of the nearest producer, Kaliesweski 1, which came in for 4,000,000 feet of gas at 1017 feet, when completed over a year ago. With reference to the nearest oil wells, which are producing from around 3350 feet, Ueckert 1 is 8500 feet northwest of Gotosky 2, the discovery deep well, and practically the same distance due west of Bracey B-1.

From Ueckert 1 to Roy Thompson 2, the most easterly producer of the field, is 13,000 feet, or about two and one-half miles, making the field that wide at its widest point. From north to south the proven productive area extends 10,000 feet, or nearly two miles. Roy Thompson 2, mentioned above as the most easterly producer of the field, is practically the same depth as Ueckert 1, now the most westerly producer; being 1007 feet deep. It was, incidentally, the first oil well of the field. It came in making 35 barrels of 17.5 gravity oil together with much gas.

At about the same time that the gas well extended the field to the west, an important extension of the 3350-foot oil producing sand was made in the south end of the field. In that area Humble Oil & Refining Company has the pay in A. Grawunder C-1 at 3388 feet. The well will not flow, but is expected to be a fair pumper, and is now being put on the beam. This well is in that part of the field in which are located the Gotosky 2 and 3, and the Grawunder B-1, all of which were completed as oil wells. A. Grawunder C-1, however, is an east extension of that part of the field, being 2200 feet east and 500 feet north of Grawunder B-1.

J. C. Walton 2, completed less than three weeks ago for 300 barrels, flowing, extended the north part of the field to the east about the same distance that Grawunder C-1 extends the south part to the east.

From A. Grawunder C-1 to J. C. Walton 2 is approximately 4000 feet; and mid-way along that line is Urban 2, which encountered a prolific gas sand at 2330 feet, blowing out and for a while running wild until brought under control.

## Cleaning Out Well Being Cleaned With Air

Houston.—Pure Oil Company is having sand trouble in its Yount-Lee 8 at Sweet Lake, Cameron Parish, Louisiana, and is laying an air line with the object of using air to clean the screen. According to a report the early part of the week, the well was making only about 40 barrels of oil, together with 67 per cent. water. When completed February 26, it flowed 234 barrels, 75 per cent. oil, the first 12 hours. Depth of the hole is 4475 feet.

Pure Oil Company's Yount-Lee 7 at Sweet Lake is pulling liner and screen in preparation for drilling deeper from 4594 feet, at which depth it came in February 4 making 40 barrels of oil per hour, later sanding up. The same company's Yount-Lee 5 is making 280 barrels, 94 per cent. water, and Yount-Lee 4 is making 130 barrels, 93 per cent. water.

## Salt Flat Field Is Long And Wide Like Luling

Houston.—Swabbing with 2000 feet of oil in the hole on Tuesday of this week, Capps et al's New 1, northeast of the Salt Flat field, Caldwell County, was expected to develop into a commercial producer. This is an important test, being 7000 feet northeast of the most northeasterly producer in the Salt Flat field, Humble Oil & Refining Company's Floyd Gray 1, which in turn has just extended the field 1000 feet. Including New 1, the Salt Flat field is now nearly six miles long. However, it is a typical "shoe-string" type fault field, like the old Luling field, which is only a few miles north of it; and is only a few locations wide at its widest point.

The Capps et al well topped the Edwards lime at 2745 feet and drilled a few feet into the lime. Considering the higher surface elevation of the location, the top of the Edwards is relatively high in the Capps well.

Humble Oil & Refining Company's Floyd Gray 1, mentioned above, was completed early this week in the Edwards lime at a total depth of 2663 feet. The well swabbed and flowed 675 barrels in the first 17 hours. Prior to its completion, the most northerly producer of the field was Humble Oil & Refining Company's Johnson 2. Gray 1 topped the Edwards lime four feet higher than Johnson 2. Gray 1 is 1000 feet north of Johnson 2.

Approximately a dozen producers were completed at Salt Flat during the past week. They are listed in the Southwest Texas division of the "completions" section.

Average production of the field during the week ending March 2 was 28,650 barrels per day, the highest average in the history of the pool. During the previous week the average daily production was 26,000 barrels. (These figures are American Petroleum Institute estimates.)

Magnolia Petroleum Company is the only concern with pipe line outlet at Salt Flat, and a large part of the production is being taken care of through tank car shipments. Tank cars now being loaded by the Gulf Production Company, Humble Oil & Refining Company, Sun Oil Company and the Shell Petroleum Corporation from the Salt Flat field are said to average around 180 cars daily.

## Cooke County

Wichita Falls, Texas.—The Bulcher field in northwestern Cooke County contributed an unusually large producer late last week when The Texas Company's H. L. Dennis 5 swabbed and flowed 950 barrels of high gravity oil during first 24-hour test after drilling through broken oil sand at 1195-1217 feet and oil sand at 1217-29 feet. This producer is located in the southwest part of 47½-acre lease in the T. J. Hutchinson Survey, Abstract 484, and extends production several locations. This section of the Bulcher field was opened up in March, 1927, by Homer Chapman and C. C. Lanier, and was considered a separate pool from the original Bulcher pool, located more than a mile to the north, but later development practically tied in the two areas.

Shortage of water for drilling purposes in the Wilbarger County fields lately has caused a general letup in field work, and at the close of last week more than a dozen tests were idle for lack of boiler water, while approximately 20 rigs have been placed on the inactive list until an adequate supply can be assured before crews are engaged. An extension of the Fluhman pool to the west was in prospect during the past week when G. R. Van Deventer et al's Shipley 1 developed 1000 feet of oil in hole after drilling broken sand at 1732-38 feet, and two feet in oil sand at 1738-40 feet. The owners are preparing to test for production at the present depth, with prospects of a commercial pumper. This semi-wildcat is located in the W. A. McKinley Survey.

## Establish Office

Eastland, Texas.—Producers & Refiners Corporation of Texas has established a district land office here in the Texas State Bank building, with C. Walter Wise, who formerly was with The Texas Company, in charge of leasing and scouting. This concern is a subsidiary of the Producers & Refiners Corporation, which is in turn controlled by Prairie Oil & Gas Company, both maintaining headquarters at Independence, Kansas. Properties of the Fensland Oil Company of Texas have been transferred to Producers & Refiners Corporation of Texas, and the former concern dissolved, according to O. O. Holmgren, treasurer.

### Conservation Board Suggests Unrestricted Imports

(Continued from page 50)

sign of the times. The closer contacts both within the industry and between it and the state and federal officials also promise gradual betterment of economic conditions. In short, more progress has been made than was expected.'

#### World Relations

Neither the high rate of domestic consumption nor the balance of exports over imports would be disquieting if the petroleum resources of the United States bore anything like the same ratio to the world's resources as the production ratio of 72 per cent., the board points out. According to the present opinion of our best petroleum geologists, however, our total resources, instead of being 72 per cent. of those of the whole world, are not more than 18 per cent. If our petroleum reserves are not to be drawn upon at a faster rate than those of all other countries, therefore, our resources should be several times larger. "The obvious inference is that the United States is exhausting its petroleum reserve at a dangerous rate," the board continues. "If the international comparison is made, this country is depleting its supply several times faster than the rest of the world. How real is the danger expressed in this fact and what remedy can be devised are questions confronting the American people as they plan for the future. At least, the effort should be made to propose measures that will minimize and delay the undesirable future outcome of this excessive drain upon a limited though admittedly large reserve. In this planning for the future the principal units of the oil industry itself, with their large refinery capacity and distribution systems, both domestic and foreign, have a stake second only to that of the Nation and may well be counted to join forces in the common interest. The depletion rate of our own resources can be brought more into accord with that of foreign resources only in one way—by importing a greater quantity of crude petroleum. The present imports of Mexican and South American crude oil come largely from American operators and, while not obtained from the United States oil sands, they are the product of American engineering and enterprise. Cooperation in the development of foreign oil fields, through technical assistance and the further investment of American capital, would seem to be a logical conservation measure."

Other factors affecting the relative position of the United States in the international aspects of the present problem are still under consideration by the board and its technical advisors and will be made the subject of a future report.

# Oklahoma--Kansas Field Notes

WARREN BAKER, *Staff Representative, Tulsa, Oklahoma*

# Potential Test Shows Seminole at Peak; Sunday Plan Cuts It

TULSA.—Producing wells in the Greater Seminole field were opened for the second potential production flow on March 1 and showed a larger recovery than generally anticipated. No doubt was left as to the fact that plenty of pep is left in the pay sands of the district by the field lacking but slightly in excess of 40,000 barrels of reaching a new peak, exceeding the 525,000 barrel high reached July 31, 1927.

The field produced 483,713 barrels for the 24 hours ending seven a. m., March 2, an increase of 68,491 barrels over the previous 24 hours when it was prorated. The following 24 hours it declined to 423,182 barrels when prorated, a loss of approximately 60,000 barrels.

Production during 24 hours ending Monday, covering Sunday, was 345,068 barrels, or the lowest figure the production of the field has reached in a long time. In other words the Sunday shut-down cut 78,114 barrels from the production records.

As a result of the increase in the potential flow of Greater Seminole on Saturday when it produced 483,713 barrels the next proration period from March 1 to 15 will carry an increase in proration percentage. Seminole City will be permitted 75 per cent. of its potential gauge; Bowlegs, Searight, Earlsboro, Little River, the same amount; St. Louis will be allowed 73 per cent. of its potential flow; Maud, 69 per cent.; and Mission 60 per cent.

Greater Seminole production for 3 days from March 1 to March 4 was as follows:

| | March 2[1] Bbls. | Mar. 3[2] Bbls. | Mar. 4[3] Bbls. |
|---|---|---|---|
| Little River | 102,885 | 89,684 | 71,948 |
| Maud | 38,971 | 37,010 | 29,747 |
| Mission | 44,613 | 39,146 | 37,923 |
| Bowlegs | 45,209 | 38,617 | 29,056 |
| Earlsboro | 68,599 | 62,994 | 42,132 |
| Seminole City | 42,840 | 36,590 | 27,342 |
| Searight | 11,649 | 10,019 | 8,252 |
| St. Louis | 128,947 | 109,122 | 98,668 |
| Total | 483,713 | 423,182 | 345,068 |

[1]Wide-open flow for potential purposes.
[2]Production prorated.
[3]Production prorated and many wells off production on account of it being Sunday.

The past week was void of any startling developments in the Wilcox sand at Greater Seminole. The most surprising development was the finding of a good shallow sand producer one mile northwest of shallow production and one-half mile south of Wilcox sand production in The Little River area. The shallow pay south of Little River may prove a larger thing than heretofore expected.

Independent Oil & Gas Company's Carpenter 1, NEc Section 27-7-6, found sand from 3105-18 feet, and has a total depth of 3195 feet. It made 1290 barrels the first 12 hours of 37.9 gravity oil, along with 10,000,000 to 15,000,000 feet of gas. Later in the week it made 1060 barrels in 21 hours, with the other three hours' flow going on the ground.

The new producer is generally thought to be in the Gilcrease sand, whereas the other shallow production south of Little River has been in the Cromwell sand. Just what horizon the new Independent Oil & Gas Company well is flowing from has not been definitely decided.

On the north edge of the shallow sand producing area, previously to the drilling in of the Independent-Carpenter producer, Independent Oil & Gas Company and Sands Petroleum Company's Reed 1, SEc NE NW Section 26-7-6, is making 65,000,000 feet of gas from 3125-41 feet and has not completely drilled out the plug.

Several new wells were drilled into the Wilcox sand in eastern Maud field. Prairie Oil & Gas Company's Billington 4, SE NW SW Section 11-8-5, made 150 barrels on the swab in eight hours from the Wilcox sand at 4150-60 feet. Sinclair Oil & Gas Company's Harjo 2, N WSW SE Section 11-8-5, Wilcox sand 4215-25 feet, swabbed 270 barrels in nine hours. Barnsdall Corporation's Coker 3, NEc SW Section 11-8-5, has 2500 feet of oil in the hole from the Wilcox sand 4160-62 feet. These wells are shutdown for eight days in accordance with the state's conservation program.

A number of tests were placed on gas and air pressure after serving their eight day shutdown period. Prairie Oil & Gas Company's Billington 6, SE SW NW Section 11-8-5, made 1155 barrels at 4105 feet; Prairie Oil & Gas Company's Billington 2, NWc SW Section 11-8-5, did 255 barrels in eight hours from Wilcox sand 4232-33 feet.

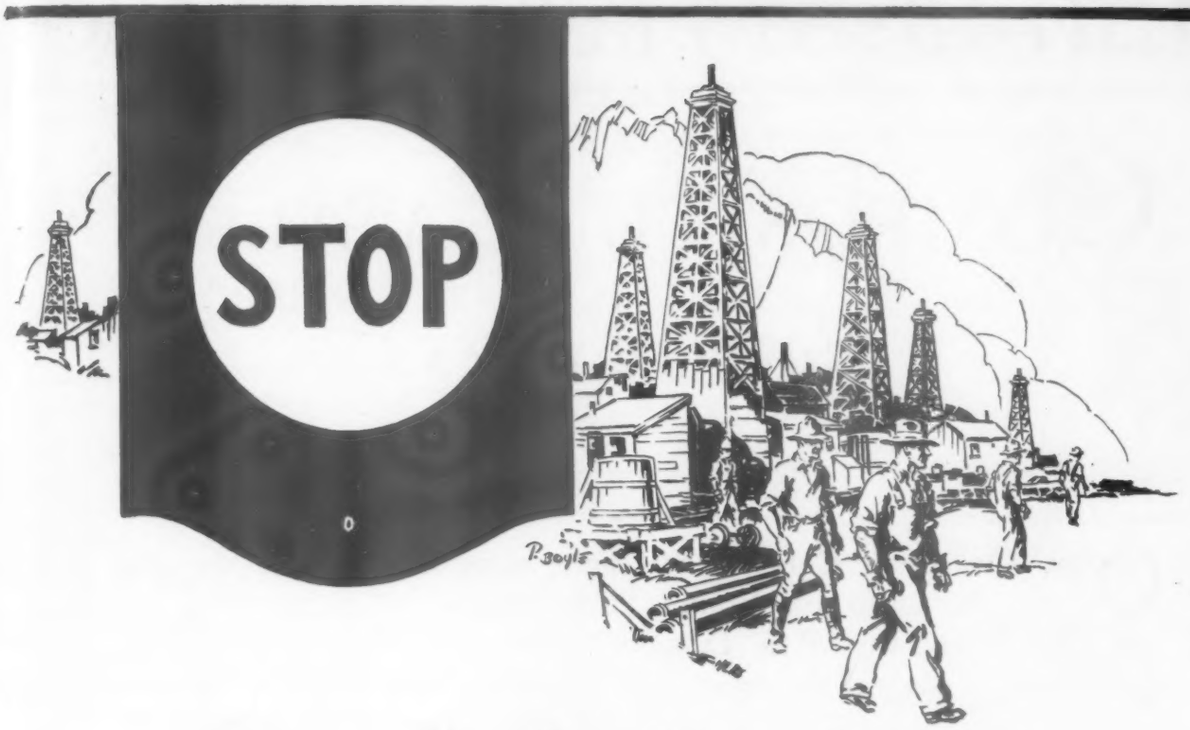
Gypsy Oil Company's Fife 2, NW SW NW Section 14-8-5, on the southwest edge of the Maud Wilcox sand producing area, has been plugged back to 4145 feet, which succeeded in shutting off the water. It swabbed 17 barrels of oil from the Hunton lime and swabbed dry.

These completions indicate that the Wilcox sand producing ability of the Maud district need not be expected to prove troublesome to the crude oil market unless additional developments of importance are found by future exploration. Such small initial production on gas or air pressure are far below the standard previously set by the Greater Seminole fields.

### West Maud Production Slumping

Fewer completions are being made in Western Maud's Hunton and Misener sand producing region and those being completed are not showing to the advantage hereftofore exhibited by completions. As a result there has been a natural decline in the production of the district. This natural drop together with the proration has brought Maud's recovery to below 30,000 barrels daily. It is being considered less of a market factor—although there is plenty of room for new developments.

Twin State Oil Company's Calvin 2, NWc SW Section 7-8-5, first deep producer in western Maud, showed about three feet of water when the bailer was run into the hole during the past week. It is doing nothing to cause any excitement, swabbing on an average of 250 barrels per day. The producing formation is the Simpson sand. Amerada Petroleum Corporation's Calvin 3, Section 7-8-5, just north of the Twin State Oil Company's Simpson producer, has 2500 feet of water in the hole and only a small show of oil in the Simpson sand from 4295-4350 feet. To the west one mile, Magnolia Petroleum Company's Billington 3, SWc NW SW 8-8-5, has been plugged back to 4390 feet, after finding a hole full of water in the Wilcox sand at 4410-12 feet, but has failed to shut off the saline fluid.




# One Defective Valve May Tie Up Production For Hours

whether it be in the field, a main line, or in refinery service. And the cost of repairs is only a part of the loss. For until they are made production stops while *overhead* goes on.

Darling Gate Valves have made, are making and will continue to make remarkable records for long service, dependability and economy.

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## GATE VALVES

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## *The* GULF PUBLISHING COMPANY

3301 Buffalo Drive

HOUSTON, TEXAS

*Say you saw it in The OIL WEEKLY*

# COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

## OKLAHOMA

| Company, Well and Location | Initial Production Bbls. | Depth |
|---|---|---|
| BECKHAM COUNTY— | | |
| E. L. Martin, Daly, c nw se, 1-8n-25w | * | 3036 |
| CARTER COUNTY— | | |
| Simpson & Fall, Dickerson 1, se 23-1s-3w | 35 | 3005 |
| COMANCHE COUNTY— | | |
| Wirt Franklin, Hollow 1, nw 2-4n-11w | * | 3630 |
| CREEK COUNTY— | | |
| Shell, Byrd 1, ne nw nw, 15-15-8e | 45 | 3826 |
| Twin State, Coachman, se nw se 20-17-7e | 80 | 2776 |
| Shaffer, Cain 5, se ne se 18-17-7e | 20 | 2820 |
| Bengall Oil Co., Tiger 10, sw nw sw 17-17-7e | 60 | 2827 |
| Dixie Drilling Co., Roberts 1, ne sw 30-17-9e | * | 2745 |
| Lebow Drilling Co., Tiger 17, ne nw nw 17-17-7e | * | 2910 |
| Curtis Oil Co., Adams 1, nw 15-18-9e | * | 3190 |
| Wm. Sherry et al, Narharkey 1, c sw ne 24-19-9e | * | 3065 |
| GRANT COUNTY— | | |
| Sooner State Oil Co., Royce 1, sw nw 34-26-4w | * | 550 |
| Larutan Fuel Co., Flood 1, nw se 23-27-3w | * | 662 |
| HARPER COUNTY— | | |
| A. F. Kopisch Oil Co., Selman 1, ne se | * | 108 |
| KAY COUNTY— | | |
| Carter & Ona Oil Co., Shimp 9, c sw sw 17-29-1e | 240 | 3352 |
| Carter Oil Co., Carter-Shimp 1, c nw nw 20-29-1e | 260 | 3429 |
| Marland, North Lease No. 2, 1, sw, owdd, 6-26-1w | * | 3664 |
| KIOWA COUNTY— | | |
| Thomas Medlin, Prough 1, ne sw 18-6n-16w | * | 500 |
| MARSHALL COUNTY— | | |
| W. W. Fleming et al, Null 1, csl ne nw 24-5s-5e | * | 766 |
| McCLAIN COUNTY— | | |
| Empire, Bonner 1, se nw nw 29-5-3e | * | 4800 |
| MUSKOGEE COUNTY— | | |
| Grubbs & Young, Friday 3, owdd, cwl sw nw 8-15-15e | 120 | 1203 |
| Bryan & Emery, Tucker 1, se sw se 5-15-15e | 10 | 1640 |
| H. Smith, Franklin 2a, cal nw nw, 30-15-16e | * | 1913 |
| J. L. Nourse et al, Ware 1, nw sw 8-15-15e | * | 1222 |
| OKFUSKEE COUNTY— | | |
| F. D. Misener et al, Johnson 2, nw sw ne 2-10-11e | 5 | 1785 |
| J. S. Cosden, Barnett 4, nw sw sw 19-11-11e | 110 | 2317 |
| Champlin, Tucker 11, se ne sw, 15-11-11e | 205 | 3511 |
| Champlin, Campbell 1, se ne sw 29-12-10e | 200 | 3160 |
| OKLAHOMA COUNTY— | | |
| McKeever Drilling Co., et al., Sampson 1, ne sw 27-11-3w | * | .... |
| OKMULGEE COUNTY— | | |
| W. B. Pine, Doyle 1, ne se nw, 18-15-13e | ¶3½ | 2187 |
| J. J. Kearney, Furr 3, ne sw, 21-11-12e | * | 1753 |
| Miller et al, Bright 1a, ne se se, 2-14-12e | * | 2724 |
| Sidwell Drilling Co., Lunsford 3, ne sw sw 4-14-11e | * | 2530 |
| OSAGE COUNTY— | | |
| Oklahoma Power & Water Co., No. 113, nw sw se 30-21-10e | 15 | 1973 |
| Gypsy & Marland No. 1, ne nw ne, 16-23-7e | 100 | 3078 |
| Winona Oil Co., No. 11, cwl sw, 25-24-9e, owdd | 4 | 2092 |
| Texas Co. No. 1, nw se, 22-24-7e | 275 | 2914 |
| Tidal, No. 1, ne nw sw 29-21-11e | * | 2594 |
| Mid-Co., No. 3, nw sw sw 24-21-8e | * | 1225 |
| Silurian No. 1, sw ne 12-23-11e | * | 1728 |

## SUMMARIZED REVIEW OF FIELD RESULTS

| State— | Completions This Week | Completions Last Week | Producers This Week | Producers Last Week | Gas Wells This Week | Gas Wells Last Week | Failures This Week | Failures Last Week | Initial Production This Week | Initial Production Last Week |
|---|---|---|---|---|---|---|---|---|---|---|
| Arkansas | 4 | 4 | 4 | 1 | .. | 1 | .. | 2 | 405 | 506 |
| California | 27 | 27 | 25 | 27 | .. | .. | 2 | .. | 36,625 | 39,600 |
| Illinois | 2 | 5 | .. | 1 | .. | .. | 2 | 4 | ... | 2 |
| Indiana | 1 | .. | 1 | .. | .. | .. | .. | .. | 5 | ... |
| Kansas | 4 | 12 | 2 | 6 | .. | .. | 2 | 6 | 530 | 865 |
| Kentucky | 27 | 11 | 12 | 10 | 1 | .. | 14 | 1 | 287 | 214 |
| Louisiana | 19 | 14 | 4 | 3 | 8 | 7 | 7 | 4 | 1,200 | 150 |
| Michigan | 5 | 13 | 1 | 9 | .. | .. | 4 | 4 | 50 | 2,470 |
| New York | .. | 7 | .. | 7 | .. | .. | .. | .. | ... | 14 |
| Ohio | 34 | 29 | 13 | 9 | 13 | 14 | 8 | 6 | 370 | 372 |
| Oklahoma | 79 | 60 | 46 | 33 | 2 | 12 | 31 | 15 | 23,428 | 22,870 |
| Pennsylvania | 40 | 59 | 37 | 51 | 3 | 7 | .. | 1 | 409 | 136 |
| Texas | 143 | 138 | 69 | 85 | 9 | 4 | 65 | 49 | 58,165 | 25,407 |
| West Virginia | 20 | 22 | 6 | 5 | 13 | 14 | 1 | 3 | 37 | 43 |
| Total | 405 | 401 | 220 | 247 | 49 | 59 | 136 | 95 | 121,511 | 92,649 |
| Increase this week | 4 | .. | .. | .. | .. | .. | 41 | .. | 28,862 | ... |
| Decrease this week | .. | .. | 27 | .. | 2 | .. | .. | .. | ... | ... |

| Company, Well and Location | Initial Production Bbbls | Depth |
|---|---|---|
| PAWNEE COUNTY— | | |
| Magnolia, Newell 2, sw nw sw 2-20-6e | ¶4¾ | 3025 |
| Hemlock Oil Co., Williams 1, ne 8-20-9e | * | 2998 |
| POTTAWATOMIE COUNTY— | | |
| Sinclair, Blandin 4, owdd, nw sw sw 24-7-4e | 480 | 4266 |
| Magnolia, Fyke "B" 2, sw nw se 20-7-5e | 323 | 4325 |
| Shaffer, Tolon 3, sw 30-7-5e | 245 | 4225 |
| Sinclair, Bellars 7, nw se ne 19-8-5e | 480 | 4169 |
| Bellars 5, sw nw ne 19-8-5e | 480 | 4274 |
| Phillips, Hudson 2, se ne nw 19-8-5e | 190 | 4185 |
| Tidal, Everetts 1, se sw sw 18-8-5e | 520 | 4242 |
| Pure, Lindley 4, ne nw se 18-8-5e | 1240 | 4145 |
| Independent, Harding 3, sw se nw 18-8-5e | 1835 | 4232 |
| Harding 4, se sw nw 18-8-5e | 900 | 4215 |
| Phillips, Wallace 1, sw nw sw 17-8-5e | 695 | 4044 |
| Texas Co., Calvin 4, ne nw se 7-8-5e | 685 | 4138 |
| Mid Co, Rogers 2, sw se sw 5-9-5e | 705 | 4400 |
| SEMINOLE COUNTY— | | |
| T. B. Slick, Fett 1, se 11-5-7e | 85 | 2707 |
| Texas Co., Janey 5, sw ne sw 11-7-6e | 260 | 4181 |
| Empire, Coker 2, nw se nw 14-8-5e | 45 | 4140 |
| Barnsdall, Coker 4, ne sw 11-8-5e | 2780 | 4160 |
| Coker 2, ne se sw 11-8-5e | 2820 | 4293 |
| I. T. I. O., Tully 1, se sw ne 10-8-5e | 59 | 4259 |
| Gypsy, Coker 1, owdd, ne se 10-8-5e | 850 | 4268 |
| Carter, Fuswa, nw ne nw 18-8-6e | 1200 | 4631 |
| Micco 2, nw ne 8-8-6e | 330 | 4491 |
| Micco 1, ne nw ne 8-8-6e | 155 | 4355 |
| Shell & Marland, Herndon 1, nw ne 7-8-6e | 780 | 4291 |
| Carter et al, Gill'm 1, nw se 13-9-5e | 2350 | 4294 |
| Skelly & Atlantic, Lottie 2, se nw nw 6-9-6e | 1100 | 4342 |
| Champlin, McCiesey 1, se sw 5-7-6e | * | 4966 |
| Magnolia, Alicky 1, se ne ne 1-8-5e | * | 4676 |
| Shaffer, Clark 8, ne sw se 1-9-5e | * | 4358 |
| Magnolia, Carr 1, ne sw 30-9-6e | * | 4510 |
| STEPHENS COUNTY— | | |
| Harry Pace et al, McMasters 1, nw se ne 13-2s-8w | 40 | 1460 |
| Max Westheimer, Martin 2, nw se se, 11-1s-4w | 12 | 3097 |
| Wirt Franklin, School 3, ne 36-1s-9w | * | 2490 |
| Bunn Marvin Drilling Co., Williamson 2, ne sw se 12-1n-6w | * | 4 |
| WAGONER COUNTY— | | |
| E. B. Rees, sw nw 4-18-17e, Mure 1 | * | 500 |
| WOODS COUNTY— | | |
| Sooner State Oil Co. & E. B. Black, Marcum 1, c sw 20-27-15w | * | .... |

## KANSAS

| Company, Well and Location | Initial Production Bbls. | Depth |
|---|---|---|
| ELK COUNTY— | | |
| Sherman et al, Armstrong 3, sw nw 10-31-10e | 100 | 2003 |
| Elk Pet Co., McIntire 11, sw nw nw, 9-30-9e | * | 2870 |
| GREENWOOD COUNTY— | | |
| Empire, Edwards 11, sw ne, 21-23-11e | 430 | 1921 |
| SEDGWICK COUNTY— | | |
| Barnsdall, Means 1, nw sw 34-27-2e | * | 3429 |

## EASTERN STATES

### PENNSYLVANIA

| Company, Well and Location | Initial Production Bbls. | Depth |
|---|---|---|
| BRADFORD FIELD— | | |
| South Penn Oil Co., Bingham 151, tr 41 | 2 | .... |
| Bingham 453, tr 3 | 4 | .... |
| Lot 14, tr 04 | 2 | .... |
| Culbertson 79, | 2 | .... |
| Cotton 1 | 3 | .... |
| Forest Pet. Corp., Forest 1 | 2 | .... |
| Forest 16 | pressure | .... |
| Korner Bros., Devlin 3 | 3 | .... |
| T. H. Kennedy, Kennedy 9 | 4 | .... |
| J. G. McDermott Co., McDermott 1 | 2 | .... |
| Nichols & DeGolier, Franchot 6 | 3 | .... |
| J. W. Looker, Kennedy 6 | 3 | .... |
| Hazlewood Oil Co., Hazlewood 18 | 2 | .... |
| Davis Oil Corp., Davies 21 | 2 | .... |
| W. W. Parmeter & Co., Parmeter 4 | 3 | .... |
| D. W. Daly, Bingham 369, tr 71 | 2 | .... |
| M. L. Lilly & Co., Middaugh 32 | 4 | .... |
| Pressure Oil Co., Howard 18 | 4 | .... |
| Doubleday 5 | 3 | .... |
| McKean County Trust Co., Bingham 386, tr 48 | 3 | .... |
| H. McCollum, Bingham 291, tr 93 | 2 | .... |
| Stover & Burdick, Potter 2 | 4 | .... |
| C. A. Duke, Hemlock 1 | 2 | .... |
| E. M. Daly 2, Daly 2 | 3 | .... |
| Mix Creek Oil Co., Mix Creek 56 | pressure | .... |
| Mix Creek 57 | 3 | .... |
| North Branch Oil Co., North Branch 10 | 3 | .... |
| W. J. Healy, Stinson 7, 8 and 9 (3 wells) | pressure | .... |
| Stinson 10 | 2 | .... |
| T. P. Thompson, Jr., Gilpin 17 | 2 | .... |
| F. M. Boock, Boock 2 | 2 | .... |
| Minnich Bros., Kenyon 5 | 4 | .... |
| L. F. Kinley & Co., Mantz 5 | 4 | .... |
| G. W. Slingerland & Co., Willest 2 | 2 | .... |
| W. T. Piper, Borden 7 | 2 | .... |
| G. W. Smith Est., Smith 3 | 12 | .... |
| C. E. Potter, Irvine 11 | 3 | .... |
| H. J. Walters, Moore 2 | pressure | .... |
| A. Schorman, Sanderson 9 | 3 | .... |
| J. W. Kaufman, Rounds 26 | pressure | .... |
| N. V. V. Franchot, Rounds 31 | pressure | .... |
| GREENE COUNTY— | | |
| Carnegie Nat. Gas Co., Barney 2 | ¶2 | .... |
| Ingrahm & Wilson 1 | ¶1½ | 3325 |
| Fry & McCracken, Bryan 2 | ¶1 | .... |
| BUTLER COUNTY— | | |
| Phillips Gas & Oil Co., Harvey 3 | 300 | .... |
| WASHINGTON COUNTY— | | |
| McMurray O. & G. Co., McMurray 1 | 3 | .... |

### INDIANA

| Company, Well and Location | Initial Production Bbls. | Depth |
|---|---|---|
| SPENCER COUNTY— | | |
| Packard Oil Co., Grass 1 | 5 | .... |

### ILLINOIS

| Company, Well and Location | Initial Production Bbls. | Depth |
|---|---|---|
| WABASH COUNTY— | | |
| J. S. Young & Co., Keyser 10 | * | 1480 |
| Stillwell 2 | * | 1710 |

## MICHIGAN

| Company, Well and Location | Initial Production Bbls. | Depth |
|---|---|---|
| **MUSKEGON COUNTY—** | | |
| Central O. & G. Co., Jeldersma 2. | 50 | 1867 |
| Puritan Oil Co., Bishop 1 | * | 1685 |
| Great Western O. & G. Co., Warren 1 | * | 2093 |
| Swastika O. & G. Co., Barr 1 | * | 2115 |
| **KENT COUNTY—** | | |
| Kenyon Oil Co., Gould 1 | * | 3000 |

## WEST VIRGINIA

| Company, Well and Location | Initial Production Bbls. | Depth |
|---|---|---|
| **GILMER COUNTY—** | | |
| Hope Nat. Gas Co., Nicholson 7235 | ¶2½ | .... |
| South Penn Oil Co., Hardman 5 | 20 | .... |
| Hope Const. & Ref. Co., Nicholson 2 | ¶¼ | .... |
| **RITCHIE COUNTY—** | | |
| R. C. Brand, McCush 1 | ¶½ | .... |
| Frank A. Deem, Ayres 1 | 3 | .... |
| Woodford & Gross, Layfield 1 | ¶1 | .... |
| **CALHOUN COUNTY—** | | |
| Hope Nat. Gas Co., Smith 7236 | ¶2 | .... |
| Pure Oil Co., McClain & Co. 1 | ¶¼ | .... |
| W. H. Bickel, Hays Hrs. 1 | ¶¼ | .... |
| **TYLER COUNTY—** | | |
| South Penn Oil Co., Swiger 6 | 3 | .... |
| Lemaster 1 | 3 | .... |
| **ROANE COUNTY—** | | |
| United Fuel Gas Co., Seaman 3855 | ¶2 | .... |
| Brown-Goshorn 2520 | ¶2 | .... |
| **BOONE COUNTY—** | | |
| United Fuel Gas Co., Horse Creek Land 1947 | ¶½ | .... |
| Cameron O. & G. Co., Anderson 11 | ¶2 | .... |
| **LINCOLN COUNTY—** | | |
| United Fuel Gas Co., Horse Creek Land 2515 | ¶½ | .... |
| Hobbs Bros., Lovejoy 1 | ¶½ | .... |
| **HANCOCK COUNTY—** | | |
| John F. McIntosh, McIntosh Hrs. 1 | 5 | .... |
| **MARSHALL COUNTY—** | | |
| Manufacturers Light & Heat Co., Allman 1 | 3 | .... |
| **PLEASANTS COUNTY—** | | |
| Dinsmore Co., Beir 17 | * | .... |

## KENTUCKY

| Company, Well and Location | Initial Production Bbls. | Depth |
|---|---|---|
| **ALLEN COUNTY—** | | |
| Dodson Bros. & Young, Ayres 1 | * | .... |
| Williams & Davis, Dodson 3 | * | .... |
| I. J. Tapp & Co., Hood 3 | * | 377 |
| Lee Moore & Son, Williams 3 | * | 471 |
| Work & Son, Duckett 2 | * | .... |
| C. P. Tannehill & Co., Thomas 2 | * | .... |
| **SIMPSON COUNTY—** | | |
| Ohio Oil Co., Mitchell 1 | * | 992 |
| **WARREN COUNTY—** | | |
| Johnson & Julian, Jenkins 15 | 1 | 532 |
| **MENIFEE COUNTY—** | | |
| Wells Oil & Gas Co., Wells 3 | 6 | .... |
| **ESTILL COUNTY—** | | |
| Superior Oil Corp., Tipton 15 | * | .... |
| **WAYNE COUNTY—** | | |
| Barrier Oil Co., Ramsey 17 | 5 | .... |
| Coffey Oil Co., Coffey 1 | * | .... |
| **JOHNSON-MAGOFFIN COUNTIES—** | | |
| Hupp & Duff, Whitt 11 | 20 | .... |
| Boston Southwestern O. & G. Co., Conley 16 | 5 | .... |
| Baldwin & Morgan, Vanderpool 4 | 15 | .... |
| Hudson & Collins, Grace 8 | 5 | .... |
| **OHIO COUNTY—** | | |
| S. R. Nigh & Co., Kelley 9 | * | 445 |
| Ohio Oil Co., Kirk 1 | * | .... |
| Creek Drlg. Co., Westerfield 7 | * | 710 |
| D. T. Bolling, Westerfield 3 | * | 625 |
| Hupp, Duff & Co., Trogden 1 | * | .... |
| **DAVIESS COUNTY—** | | |
| Smith, Randolph & Co., Wells 7 | 40 | .... |
| Wells 8 | 70 | .... |
| Creek Drlg. Co., Leet 4 | 45 | .... |
| C. C. C. Oil Co., Hinton 4 | ¶2 | .... |
| D. C. Stimson & Co., Fireline 3 | 40 | .... |
| Botts, Swarthout & Co., Rhodes 2 | 35 | .... |

## SOUTHEASTERN OHIO

| Company, Well and Location | Initial Production Bbls. | Depth |
|---|---|---|
| **MONROE COUNTY—** | | |
| Harry Shaffer, Howiler 3 | ¶¼ | 1595 |
| H. M. Timblin Est., Bode 15 | 25 | .... |
| **MORGAN COUNTY—** | | |
| Manbourg Dev. Co., Williams 2 | ¶¼ | 1605 |
| Dunn Oil Co., Hann 14 | ¶¼ | 1623 |
| **NOBLE COUNTY—** | | |
| I. J. Harper, Harper 1 | 2 | 842 |
| Myra Slee, MaGinniss 6 | 5 | .... |
| **WASHINGTON COUNTY—** | | |
| Meister & Blair, Fee 4 | ¶¼ | —— |

## CENTRAL OHIO

| Company, Well and Location | Initial Production Bbls. | Depth |
|---|---|---|
| **BERRY COUNTY—** | | |
| Big Ten O. & G. Co., Hazleton 13 | 5 | .... |
| Ohio Fuel Gas Co., Milligan 1 | ¶2-15 | 3684 |
| Buckeye Supply Co., Wilson 1 | 5 | 3732 |
| Dun-Marr Oil & Gas Co., Rousculp 1 | 5 | .... |
| **ATHENS COUNTY—** | | |
| Wiser Oil Co., Porter 1 | ¶¼ | .... |
| Hope Const. & Ref. Co., Davis 4 | 2 | 1829 |
| Ohio Fuel Gas Co., Glass 3 | ¶½ | 1528 |
| Henry 1 | ¶1 | 1605 |
| Fleming 1 | ¶2 | 1537 |
| **ASHLAND COUNTY—** | | |
| Logan Gas Co., Miller 1 | * | .... |
| Robinson Co., Strine 9 | 3 | .... |
| Strine 10 | * | .... |
| **MUSKINGUM COUNTY—** | | |
| Hope Const. & Ref. Co., Varner 3 | 190 | 3174 |
| L. W. Luther & Co., Reehl 2 | * | .... |
| **KNOX COUNTY—** | | |
| Pure Oil Co., Marvin 1 | 100 | 3132 |
| Ohio Fuel Gas Co., Coglin 1 | ¶½ | 2643 |
| **HOCKING COUNTY—** | | |
| Preston Oil Co., Marks 3 | 5 | .... |
| Kachelmacher Est., Tracy 30 | * | 3410 |
| **VINTON COUNTY—** | | |
| Co-operative Oil Co., Brooks 1 | 5 | 1111 |
| McArthur Brick Co., Fee 1 | * | 2863 |
| **LICKING COUNTY—** | | |
| Armstrong & Lytle, Motherspaw 11 | 3 | .... |
| McClay Bros., Hoover 1 | ¶¼ | 596 |
| **MEIGS COUNTY—** | | |
| Tyree & Co., Stobart 7 | * | .... |
| Ohio Fuel Gas Co., Stow 1 | * | 1765 |
| **WAYNE COUNTY—** | | |
| Ohio Fuel Gas Co., Fulton 1 | ¶2½ | .... |
| **RICHLAND COUNTY—** | | |
| Ohio Fuel Gas Co., Douglass 3 | ¶¼ | .... |
| **SUMMITT COUNTY—** | | |
| F. A. Brendall & Co., Hose 1 | ¶1½ | 3990 |
| **HOLMES COUNTY—** | | |
| Preston Oil Co., Nethro 1 | * | 3517 |

## CALIFORNIA

| Company, Well and Location | Initial Production Bbls. | Depth |
|---|---|---|
| **ATHENS-ROSECRANS—** | | |
| Cypress Pet. Co., M. & M. 1 | 175 | 6505 |
| **FRUITVALE—** | | |
| Pacific-Eastern Production Co., B-7 | 2000 | 4000 |
| **KERN FRONT—** | | |
| Texas Co., Midlands 11 | 250 | 2030 |
| **LONG BEACH—** | | |
| Italo Petroleum Corp., Kading 3, wo | 700 | 6461 |
| South Basin Oil Co., No. 4 | 500 | 6125 |
| The Texas Co., Goddard 2 | 100 | 5730 |
| Perrin 2 | 400 | 6728 |
| Bowles Oil Co., No. 4 | 1500 | 6060 |
| **SANTA FE SPRINGS—** | | |
| George F. Getty, Inc., O'Donnell 19 | 1000 | 6610 |
| Richfield Oil Co., G. P. 1 | 3300 | 5890 |
| Rio Grande Oil Co., P-C 1 | 1500 | 5865 |
| P-C 2 | 1400 | 5840 |
| Standard Oil Co., Koontz 9 | 100 | 5825 |
| Walker 14 | 1200 | 5882 |
| Walker 18 | 100 | 5780 |
| The Texas Co., Weaver 5 | 2200 | 5310 |
| Union Oil Co., Alexander 13 | 2100 | 5850 |
| Alexander 15 | 2200 | 5820 |
| Bell 31 | 3700 | 5388 |
| Bell 35 | 2600 | 5850 |
| Bell 36 | 3300 | 5850 |
| Bell 37 | 3500 | 5850 |
| Bell 39 | 2200 | 5355 |
| Universal Consolidated Oil Co., O'Connell 2 | 200 | 5830 |
| **SEAL BEACH—** | | |
| Standard Oil Co., San Gabriel 12 | 400 | 5450 |

## ARKANSAS

| Company, Well and Location | Initial Production Bbls. | Depth |
|---|---|---|
| **OUACHITA COUNTY—** | | |
| Little Fay Oil Co., Primm A-1, 24-15-16 | 50 | 2072 |
| **UNION COUNTY—** | | |
| Shell Pet. Corp., Williams 1, 34-15-15 | 245 | 1975 |
| Ohio Oil Co., Nash 1, Acct. 3, 6-17-13 | 60 | 3064 |

## NORTH LOUISIANA

| Company, Well and Location | Initial Production Bbls. | Depth |
|---|---|---|
| **EAST CARROLL PARISH—** | | |
| Palmer Corp., Mitchiner 1, 8-19-11e | * | 2717 |
| **MOREHOUSE PARISH—** | | |
| Southern Carbon Co., Tensas Delta No. 18, 2-20-4e | ¶14 | 2182 |
| Southern Carbon Co., Fee 51, 15-20-4e | ¶32 | 2143 |
| **OUACHITA PARISH—** | | |
| Pipes & Mack, Wright 1, 11-18-4e | ¶2 | 2207 |
| Magnolia Pet. Co., Morrison 2, 2-19-4e | ¶1 | 2210 |
| Hatcher & Evans, Hatcher 8, 21-19-4e | ¶4 | 2210 |
| **RICHLAND PARISH—** | | |
| Magnolia Pet. Co., J. Sartor 2, 16-16-6e | * | 2633 |
| Community O. & G. Co., Boise 1, 33-16-6e | ¶53 | 2448 |
| **WEBSTER PARISH—** | | |
| Magnolia Pet. Co., H. H. Branton 3, 6-22-9 | ¶4 | 2688 |

## SOUTH LOUISIANA

| Company, Well and Location | Initial Production Bbls. | Depth |
|---|---|---|
| **EVANGELINE** | | |
| Gulf, Jennings-Clement 36, dd | * | 3340 |
| **LOCKPORT—** | | |
| Vacuum-Gulf Co., Miller A-22 | * | 1310 |
| Miller 23 | 360 | 4365 |
| **STARKS DOME—** | | |
| Gulf, Lutcher-Moore 5 | * | 5105 |
| Industrial Lbr. Co., 11 | * | 5170 |
| **SWEET LAKE—** | | |
| Pure, Yount-Lee 8 | 330 | 4475 |
| **VINTON—** | | |
| Vinton Pet. Co., Matilda Gray 1 | 500 | 2910 |
| Vincent 10, dd | 10 | 2455 |

## TEXAS

### TEXAS GULF COAST

| Company, Well and Location | Initial Production Bbls. | Depth |
|---|---|---|
| **BATSON—** | | |
| Acorn Oil Co., Paraffine 68 | 75 | 1265 |
| **BIG CREEK—** | | |
| Gulf, T. W. Davis 15, dd | 500 | 2900 |
| T. W. Davis 51 | 3500 | 3625 |
| **CLAY CREEK—** | | |
| Sun Oil Co., Einman 1 | * | 2710 |
| **HIGH ISLAND—** | | |
| Marrs McLean, Cade A-1 | * | 2407 |
| **HULL—** | | |
| Republic Prod. Co., Dolbear 37, dd | 400 | 2855 |
| **PIERCE JUNCTION—** | | |
| T. G. Shaw et al, Fitzsimmons D-2 | * | 4520 |
| **ORANGE—** | | |
| Gulf, F. T. Pevoto 11, dd | * | 5220 |
| **RACCOON BEND—** | | |
| Humble,-Valley-Pennington, E. Ueckert 1 | ¶5 | 1001 |
| **REFUGIO—** | | |
| Union Exploration Co., Morgan-Rooke 1 | ¶50 | 3675 |

### SOUTHWEST TEXAS

| Company, Well and Location | Initial Production Bbls. | Depth |
|---|---|---|
| **SALT FLAT—** | | |
| Humble, F. Gray 1 | 900 | 2663 |
| W. O. Allen 2 | 1275 | 2711 |
| Johnson 2 | 125 | 2680 |
| Moses & Baggett 2-A | 700 | 2675 |
| Moses & Baggett 3-A | 1800 | 2675 |
| Cranfill & Reynolds, Northcut 1 | 300 | 2729 |
| Shell, Carter 3-B | * | .... |
| Moses 4 | 600 | 2689 |
| Gulf, Allen 2 | 300 | 2728 |
| Tiller 2 | 600 | 2748 |
| Carter 4 | 600 | 2670 |
| **LYTTON SPRINGS—** | | |
| S. & M. Oil Corp., Lynch 1 | * | 2348 |
| **CEDAR CREEK—** | | |
| The Texas Co., Yost 3 | 400 | 1384 |
| **AQUA DULCE FIELD—** | | |
| Aqua Dulce O. & G. Co., Wolcott 1 | ¶50 | 1984 |
| **FRIO COUNTY—** | | |
| York & McIntyre, Blackaller 2 | * | 3217 |
| **JIM HOGG COUNTY—** | | |
| Randado Oil Corp., Palacios 34, Randado | 100 | 312 |
| **LIVE OAK COUNTY—** | | |
| Poor Boy Oil Co., Wedding 3 | * | 1047 |
| **WEBB COUNTY—** | | |
| Magnolia, Yeager-Strohman 15, Albercas pool | 30 | 2168 |
| J. G. Mackay, Richardson 1, Cole field | ¶35 | 1775 |
| J. M. Watson, Benavides 1, Blk. 14, sur 11 | * | 2060 |
| **ZAPATA COUNTY—** | | |
| Chas. L. McCaslin, Hinnant 1, Jennings pool | 100 | 1613 |

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ALL Jones High Manganese Steel Sucker Rods are built to withstand at least three times the strain to which they are subjected in service yet this money saving factor of safety is nullified when the rods are full of kinks.

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## WEST TEXAS

| Company, Well and Location | Initial Production Bbls. | Depth |
|---|---|---|
| CRANE COUNTY— | | |
| C. C. Duffey et al, Cowden 4 | 150 | 2428 |
| HOWARD COUNTY— | | |
| American-Maracaibo Co., Settles 3-C | 700 | 2325 |
| The California Co., Roberts 1-B, Lse. 2 | 1630 | 2972 |
| Empire G&F Co., Otis Chalk 3-C | 120 | 1841 |
| H. R. Clay 12-A | 25 | 1794 |
| H. R. Clay 3-G | 45 | 1818 |
| Moody Corp. (Superior), Roberts 12-B | 575 | 3073 |
| Pure Oil Co., Otis Chalk 10 | 100 | 1731 |
| JONES COUNTY— | | |
| Phillips Pet. Co., H. B. Vestal 3 | * | 2577 |
| Joe Winters 1-W | * | 3004 |
| Joe Winters 6 | 50 | 2477 |
| The Texas Co. & Cosden & Co., Carter 5 | 175 | 2507 |
| LOVING COUNTY— | | |
| Lockhart & Co., Wheat-Lloyd 1-A | 300 | 4238 |
| MITCHELL COUNTY— | | |
| The California Co., W. L. Foster 6 | 90 | 2854 |
| PECOS COUNTY— | | |
| The California Co., M. A. Smith 2, Lse. 1 (Sec. 21) | 3200 | 1490 |
| M. A. Smith 7, Lse. 1 (Sec. 23) | 2640 | 1867 |
| Mid-Kansas-Transcontinental, Yates 28-B | 25,000 | 1325 |
| WINKLER COUNTY— | | |
| Southern Crude & R. A. Westbrook, Hendrick 3-C-T-89 | 400 | 2995 |
| Ida Hendrick 4-B-T-88 | 2640 | 3084 |
| Hendrick 1-D-T-89 | 720 | 3031 |
| Ida Hendrick 4-L-T-88 | 2200 | 2980 |
| T. G. Hendrick 4-S-T-88 | 1220 | 2803 |

## TEXAS PANHANDLE

| Company, Well and Location | Initial Production Bbls. | Depth |
|---|---|---|
| GRAY COUNTY— | | |
| J. Alvin Gardner-Collins et al. Saunders 1 | ¶15 | 3132 |
| Skelly Oil Co., G. H. Saunders 1 | ¶2-500 | 2573 |
| HUTCHINSON COUNTY— | | |
| Phillips Pet. Co., Johnson-Barnum 5 | 130 | 2878 |
| J. A. Whittenburg 15 (Sec. 63) | 40 | 2871 |
| WHEELER COUNTY— | | |
| A. A. Kaufhold et al, E. H. Wallace 1 | ¶35 | 2026 |

## NORTH TEXAS

| Company, Well and Location | Initial Production Bbls. | Depth |
|---|---|---|
| ARCHER COUNTY— | | |
| American Ref. Prop., Inc., Benson 2 | * | 921 |
| C. W. Clark & King Roy. Co., Smith 1 | * | 1300 |
| Freeman & Grebin, Haralson 1 | * | 1450 |
| Ted Harris et al, Roller 3 | * | 1318 |
| Harry Hines & Venmex Oil Co., Helm 1 | * | 1862 |
| Kimrow Prod. Co., Campbell 2 | * | 1100 |
| Magnolia Pet. Co., Chilson 1 | 30 | 1798 |
| A. Minnick et al, Wilson 2 | * | 1111 |
| Nicholson et al, Hudson 1 | * | 765 |
| Pandem Oil Corp., Wiedemeyer 1 | * | 1386 |
| Petroleum Prod. Co. et al, Jeske 1 | * | 1194 |
| Rathke Oil Co., Netherton 2 | * | 1472 |
| F. P. Rose & Humble O&R Co., Abercrombie 1 | * | 1257 |
| The Texas Co., Scott 1 | * | 1406 |
| Parkey 2 | * | 1852 |
| Lowrance 1 | * | 1652 |
| CLAY COUNTY— | | |
| Texas Dev. Co., Hatfield 1 | * | 2467 |
| COOKE COUNTY— | | |
| Pure Oil Co., Embry 5 | 145 | 1210 |
| The Texas Co., Dennis 5 | 950 | 1239 |
| ELECTRA— | | |
| Mrs. R. A. Laning et al, McCarty 3, Lse. 3 | 20 | 1713 |
| Panhandle Ref. Co., & Venmex Oil Co., Burnett 5 | 55 | 1400 |
| R. M. Waggoner et al, Wagoner Bros. 1 | * | 1665 |
| MONTAGUE COUNTY— | | |
| The Texas Co., Gist 9-B | 25 | 854 |
| Salmon 3-C | * | 1772 |
| K-M-A AND IOWA PARK— | | |
| Humble O. & R. Co., W. H. Taylor 14 | 70 | 1488 |
| Producers Drlg. Co., Allen-Kemp 2-A | 15 | 1647 |
| Shell Pet. Corp., Denny 4 | * | 960 |
| Staley-Wynne & Co., K. & K. 14 | 40 | 1485 |
| KNOX COUNTY— | | |
| Dixie Oil Co. & Sun Oil Co., Smith 1 | * | 3258 |
| WILBARGER COUNTY— | | |
| Burton et al, Waggoner 1-H | 25 | 1890 |
| Easter Oil Co., Waggoner 2-A | 160 | 2426 |
| Waggoner 1-C | 165 | 1927 |
| Shaw Oil Co., Waggoner 5-E | 100 | 2435 |
| The Texas Co., Waggoner 1-N | * | 2461 |
| Waggoner Ref. Co., Waggoner 5-K | 125 | 2337 |
| YOUNG COUNTY— | | |
| Allday Oil Corp., Johnson 1-D | * | 604 |
| T. G. Bradstreet & Co., Snider 3 | 30 | 569 |
| Bundy et al, Davis 1 | * | 912 |
| King Royalty Co., Stewart 24 | * | 853 |
| Nash & Windfohr, Hinson 1 | † | 2340 |
| Pennell et al Calvin 1 | 55 | 567 |
| Rhodes et al, Eichelberger 2-A | * | 949 |
| Stafford et al, Dailey 1 | * | 535 |
| Steed & Goss, Loftin 1 | * | 660 |
| Wise & Jackson, Calvin 5 | 5 | 649 |

## CENTRAL WEST TEXAS

| Company, Well and Location | Initial Production Bbls. | Depth |
|---|---|---|
| BROWN COUNTY— | | |
| Amerada Pet. Corp., Smith 2 | * | 654 |
| Hawkins et al, Piller 1 | * | 920 |
| Humble O&R Co., Byler 10 | 25 | 1322 |
| Geo. W. McClung et al, Spivey 1 | * | 1050 |
| CALLAHAN COUNTY— | | |
| Eubanks & Son et al, Eubanks 4 | 15 | 468 |
| Holmes et al, Hatchett 1-A | * | 465 |
| Jackson et al, Eubanks 1 | * | 464 |
| Warren & West, Hatchett 1 | * | 805 |
| COLEMAN COUNTY— | | |
| Dixon & Mitcham, Martin 1 | * | 1125 |
| Humphreys Bros., Inc., Matthews 4 | * | 1975 |
| L. C. Turman et al, Kingsberry 1 | * | 1600 |
| R. V. Whiteside et al, Stafford 3 | * | 1385 |
| EASTLAND COUNTY— | | |
| Belva Oil Co., Good 5 | * | 3725 |
| Eastland Oil Co., et al, Winchell 1 | ¶1½ | 3980 |
| Mays et al, Williamson 2 | * | 1530 |
| C. M. Root et al, Kurklin 2 | 290 | 3440 |
| Noble 2 | 50 | 3425 |
| ERATH COUNTY— | | |
| Wickens et al, Smith 1 | ¶3½ | 3330 |
| PALO PINTO COUNTY— | | |
| Reinhart Bros. et al, Weldon 1 | * | 2160 |
| SHACKELFORD COUNTY— | | |
| Collins et al, Elliott 1 | * | 2208 |
| J. P. Harris et al, Flippen 1 | * | 1020 |
| Ohio-Texas Oil Co., Matthews 11 | 300 | 1155 |
| Matthews 13 | 255 | 1149 |
| Roeser-Pendleton-Marland Prod. Co., Cook 36-A, (Sec. 61) | 50 | 1226 |
| Cook 11-B, (Sec. 61) | 25 | 1325 |
| Cook 12-B, (Sec. 61) | 30 | 1325 |
| Simms Oil Co., Lones 6 | 75 | 807 |
| Tannehill Oil Co., Whitney 1 | * | 1016 |
| STEPHENS COUNTY— | | |
| Arab Gasoline Corp., Williamson 1 | ¶½ | 4040 |
| Ramsey & Decker et al, Keathley 1 | * | 3150 |

## Carbon Black Plank

Shreveport.—Plans are being made by Harry E. Oliver of Shreveport and associates to build a carbon black plant on the Missouri Pacific Railroad north of Mangham, Louisiana. This location is seven miles east of a 2000-acre tract owned by Oliver and associates in the Richland gas field. The property has a 42,000,000 cubic foot gas well near the center, and plans call for construction of an eight-inch line from the producing property to the new plant.

The initial plant unit will have a daily capacity of 8,000,000 cubic feet of gas, and additional units are to be added shortly after the first manufacture gets under way.

The Creole Carbon and Gasoline Corporation, with a capital stock of $500,000 has been organized to operate the producing property and carbon black plant, and several other wells will be drilled in the immediate future. Construction of a 20-mile gas line from the production to Swartz, Louisiana, will be started soon through which 20,000,000 cubic feet of gas daily will be furnished to carbon black plants already in operation.

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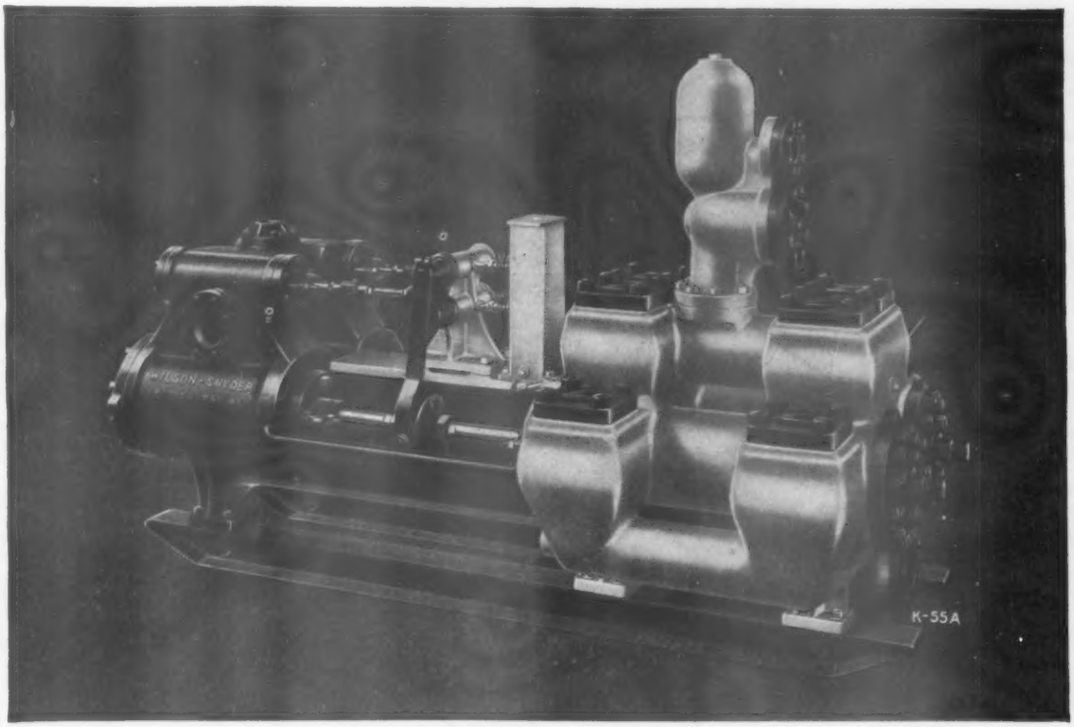


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*Complete stocks of Drilling and Pumping Equipment*

1. Steam inlet on top, connecting from either side.
2. Exhaust taken from either side.
3. Piston steam valves operate with same ease under all pressures.
4. Automatic lubrication. Cast iron reservoir just behind rocker shaft stand.
5. Direct Flow-Slush enters suction and immediately enters Piston Chamber. From there it is forced through the discharge valves to the waste.
6. Long Stroke. Means 20 to 30% more capacity with less valve or piston wear. This is brought about on account of fewer reversals, which wear out valves and pistons.
7. New double faced valve is reversible when worn on one side, thus reducing valve replacement expense to one half.

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OIL AND GAS WELL SUPPLIES

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*Beaumont, Luling, Texas*

# PERMITS GRANTED FOR NEW WELLS

## WEEKLY COMPARISON OF NEW WELLS

**Following is a condensed table giving a comparison of permits or locations made for new wells during the past year in Kansas, Oklahoma, Arkansas, Louisiana, Texas, California and the Mountin States:**

| | Week ending Mar. 2 | Previous week | Total this month | Total this year | This week Last Yr. | This month 1928 | 1928 year total |
|---|---|---|---|---|---|---|---|
| Arkansas | 2 | 2 | 2 | 25 | 5 | 5 | 331 |
| Cal fornia | 33 | 22 | 33 | 271 | 21 | 21 | 1,207 |
| Louisiana | 21 | 19 | 21 | 131 | 19 | 19 | 680 |
| Kansas | 12 | 6 | 12 | 161 | 14 | 14 | 1,032 |
| Oklahoma | 49 | 44 | 49 | 535 | 39 | 39 | 3,744 |
| Texas | 145 | 108 | 145 | 1,366 | 149 | 149 | 8,297 |
| Total | 262 | 201 | 262 | 2,490 | 247 | 247 | 15,291 |

### ARKANSAS

CRAWFORD COUNTY—Industrial O. & G. Co., Fort Smith, Brownlee 2, 660 e 500 s nwc nw nw, 22-9-31.

UNION COUNTY—Arkansas Drilling Co., El Dorado, McDonald 1, 330 e 330 s s nw c sw nw, 11-17-18.

### TEXAS

ARCHER COUNTY—Petroleum Prod. Co., Wichita Falls, Phillips 2, BBB&C sur, 141 ft n and 127 ft from w line. Pandem Oil Co., Wichita Falls, Richardson 1, B 2425, TE&L sur, 450 ft from n and 150 ft from w line. Texas Co., Wichita Falls, Stewart 1, BBB&C sur, 225 ft from n and 450 ft from e line. Panhandle Ref. Co., Wichita Falls, Prideaux 105, 14C, A. Rohus sur, 300 ft n of No. 3. Magnolia, Dallas, Wallace 1, S 3, B 11, D.C.S.L. sur, 150 ft from n and w lines. Texas Co., Wichita Fals, Parkey 2, SC 1, B 4, Amer. Trib. sur, 200 ft n and 650 ft from e line; Scott 1, J. James sur, 1050 ft from w and 370 ft from s line. Humble, Wichita Falls, Turbeville A1, B 86, J.C.S.L. sur, 150 ft from n and w lines. Pandem Oil Corp., Wichita Falls, Wallace 1, B 11, D.C.S.L. sur, 150 ft from n and w lines; Hudson C. 1, B 83, J. W. Harris sur, 450 ft from s and 150 ft from e line. F. H. Gohlke, Wichita Falls, Wilson 1, B 25, Geraldine sur, 450 ft from n and 150 ft from e line. E. J. Stump & Co., Wichita Falls, Young & Langford 1, B 135, J. W. Harris sur, 1151 ft from e and 150 ft from s line. Underwood Drilling Co., Wichita Falls, Perkins 1, S 10, E. T. Ry. sur, 1848 ft from n and 150 ft from w line. Maycamp Drilling Co., Wichita Falls, Prideaux 2, A. Rohus sur, 300 ft n of No. 1. Shappell Oil Co., Wichita Falls, Jackson 43, B 5, D.C. S.L. sur, 830 ft from s and 750 ft from e line. Shell Pet. Corp., Wichita Falls, Abercrombie C2, S 41, J. W. Harris sur, 150 ft from n and 450 ft from e line. Prairie O. & G. Co., Ranger, Benson 1, 1808 ET&L sur, 150 ft from s and w lines. Moran Drilling Co., Wichita Falls, Bloodworth 1, M. Cartwright sur, 150 ft from n and 2335 ft from w line. L. G. Bradstreet Co., Wichita Falls, Snider A 4, R. Wilson sur, 150 ft from n and e lines; Snider 5, R. Wilson sur, 750 ft from n and 150 ft from w line.

AUSTIN COUNTY—Humble, Houston, Snell 1, Wm. Withers sur, 350 ft from sw and 245 ft from se line; Hardy 3, Wm. Smither's sur, 917 ft from sw and 350 ft from se line; Washington B 1, W. C. White sur, 461 ft, from sw and 234 ft from nw line.

BROWN COUNTY—Paramount Oil Royalties, Inc., Brownwood, Mayes 4, No. 609, J. M. Ross sur, 300 ft w of No. 1. Hartt & Cole, Inc., Dallas, Johnson 1, J. S. Thom sur, 450 ft from n and 300 ft from e line. Humble, Wichita Falls, Tervooren 1, S 11, HT&B sur, 1295 ft from e and 150 ft from s line. Lloyd Oil Corp., Fort Worth, Bailey 2, S 137, Univ. Lands. Syndicate Oil Corp., Abilene, Curry 5, E. L. Betts sur, 400 ft se of No. 4. McGee & Pollard, Amarillo, Honnel 1, No. 34, J. Kellogg sur, 1556 ft from ne and 1755 ft from se line. Prairie &. & G. Co., Ranger, Lynch 2, M. Little sur, 600 ft s of No. 1.

BREWSTER COUNTY—E. W. Bateman, Fort Worth, Neville 1, S 64, B 13, GH&SA sur, 1000 ft from w and 2000 ft from s line.

BEXAR COUNTY—J. J. Curl, San Antonio, Carbec 1, 300 1-6, Sec. 5, 1320 ft from e and 660 ft from s line

BASTROP COUNTY—Sun Oil Co., Dallas, Barnett 1, L. C. Cunningham sur, 870 ft from se and 150 ft from ne line.

CALLAHAN COUNTY—Texas Co., Wichita Falls, Hatchett 23, S 29, D&D Asy. sur, 300 ft s of No. 21. Moutray Oil Co., Abilene, Hatchett 15, S 24, D&D Asy. sur, 395 ft s and 150 ft w line; Hickman 27, S 149 BBB&C sur, 147 ft e and 260 ft n of No. 26. Reiter-Foster Oil Corp., Tulsa, Hatchett 21, S 24, D&D Asy. sur, 397 ft from n and 650 ft from e line. W. A. Thompson, Abilene, Hughes 1, S 125, A. T. sur, 150 ft from s and e lines. Surf Oil Co., Baird, Snyder 23, S 4, T&NO sur, 150 ft from w and 110 ft from s line.

CALDWELL COUNTY—Gulf Prod. Co., Houston, Wright A 5, G. Hinds sur, 300 ft n of No. 2; Wright A 5, G. Hinds sur, 150 ft from n and e lines; Tiller 7, G. Hinds sur, 300 ft e of No. 6; Alden & Tiller 4, G. Hinds sur, 300 ft e of No. 3; Carter 5, G. Hinds sur, 300 ft s of No. 1. Brown & Miller, San Antonio, Carter 2, G. Hinds sur, 150 ft from n and w lines. W. D. Anderson, Fort Worth, Horner 1, F. Berry sur, 300 ft s of center of n line. J. B. Blanchard, Lockhart, Fleming 1, A. Floyd sur, 150 ft from ne and 75 ft from se line. Sun Oil Co., Dallas, Malone 6, A. Floyd sur, 300 ft se of No. 4.

COLEMAN COUNTY—Fox & Admas, Burkett, Burns 49, No. 168, A. Wickson sur, 2850 ft from n and 1650 ft from e line. Roth & Faurot, Valera, Cox 1, B 15, B&D sur, 264 ft from s and w lines. Herbert Oil Co., Fort Worth, Weaver A1, A. Gable sur, 150 ft from s and e lines. Jno. W. Willmott, San Diego, Calif., Favers 1, No. 80, A. S. Lipscomb sur, 150 ft from s and w lines. Schermerhorn Oil Co., Tulsa, Okla., Gray 2, B 33, V.C.S.L. sur, 357 ft from n and 350 ft from w line.

CLAY COUNTY—Saxet Oil Co., Petrolia, Fee C 38, B 14, C. Neville sur, 180 ft sw of No. 22; Fee C 37, B 14, C. Neville sur, 170 ft ne of No. 12.

COOKE COUNTY—Kewannee O. & G. Co., Tulsa, Okla., Lanier A 8, E.T.Ry. sur, ne corner. Shell Pet. Corp., Wichita Falls, Dennis 4, T. J. Hutchinson sur, 150 ft from w and 472 ft from s line.

CARSON COUNTY—Skelly Oil Co., Tulsa, Okla., Hedrick 1, S 239, B B2, I&GN sur, 660 ft from n and w lines.

DONLEY COUNTY—Marine Oil Co., Wichita Kans., Sawyer 1, S 5, B G, GC&SF sur, 990 ft from s and w lines.

EASTLAND COUNTY—Geo. Price, Eastland, Holcomb 3, J. House sur, 1407 ft from n and 1152 ft from w line. Panhandle Ref. Co., Wichita Falls, Wheeler 2, B 23, McL.C.S.L. sur, 300 ft ne of No. 1. Texas Pacific Coal & Oil Co., Ranger, Higginbotham 4, S 53, B 4, H&TC sur, 330 ft from n and 550 ft from w line.

FORT BEND COUNTY—Moody Corp., Tulsa, Okla., West-Scheneck 6, T. Habermaker sur, 714 ft from n and 50 ft from w line. Texas Co., Houston Pleasants 1, S. Miller sur, west corner. Blakely & Means, Houston, Blakely 10 Blk 2, D. E. Drew sur, 50 ft from s and e lines. Humble O. & R. Co., Houston, Nelson 2, Wm. Little sur, 2154 ft from n and 1900 ft from w line; Sugarland Ind. 6, Wm. Stafford sur, 450 ft from s and 150 ft from w line.

FISHER COUNTY—White Eagle O. & R. Co. and Eastland Oil Co., Abilene, Hughes 1, S 220, T. H. Cosby sur, ne corner.

FALLS COUNTY—Yost & Hicks, Kosse, Pamplin 1, S. Pillow sur, 450 ft from s and w lines.

GUADALUPE COUNTY—H. H. Weinert et al, San Antonio, Baptist Land Mark Assn 1, J. H. Kuykendall sur, 165 ft from w and 150 ft from s line.

GRAY COUNTY — Southern Pet. Explo. Co., Pampa, McConnell 2, S 174, B 3, I&GN sur, 990 ft from w and 330 ft from s line; McConnell 3, S 174, B 3, I&GN sur, 660 ft e of No. 2.

HARRIS COUNTY—Gulf Prod. Co., Houston, Smith 5, Wm. Scott sur, 305 ft from e and 176 ft from n line. H. S. Smith et al, Houston, Hermann 1, G. H. Hermann sur, 50 ft from n and 950 ft from e line. Moody Corp., Tulsa, Okla., Whitehead B4, B 14, J. Hamilton sur, 210 ft n of No. 1. Cezeaux & Martin, Humble, Hirsch A1, J. B. Jones sur, 150 ft from n and 75 ft from w line. T. W. Horn, Houston, Hermann 32, J. B. Jones sur, 690 ft from w and 40 ft from s line.

HARDIN COUNTY—Ada Belle Oil Co., Batson, Texas Co. 126, Sec. L. J. Knight sur, 36 ft from w and 37 ft from n line.

JEFFERSON COUNTY—Combest Oil Co., Beaumont, Ewing & Ring 1, B 102, J. A. Veatch sur, se corner. Yount-Lee Oil Co., Beaumont, Gladys 82, B 98, J. A. Veatch sur, 18 ft, from s and 85 ft from e line.

JACK COUNTY—Republic Prod. Co., Houston, Bryson 1, Hughson sur, 330 ft from w and 312 ft from s line.

JONES COUNTY—Grisham-Hounter Corp., Abilene, Hester 1, No. 335, L. Kratz sur, 300 ft from w and 330 ft from s line. P. K. French, Fort Worth, Leeson 1, S 31, B 14, T&P sur, 150 ft from s and w lines.

JIM HOGG COUNTY—L. Kitselman, Laredo, Holbein 1, S 3, B 9, Las Animas sur, 450 ft from n and 150 ft from w line.

LIBERTY COUNTY—Sun Oil Co., Beaumont, Mitchell 41, M. G. White sur, 200 ft ne of No. 28; Mitchell 40, M. G. White sur, 150 n of No. 38.

MILAM COUNTY—W. A. Jones, Minerva, Manley 1, J. Leal sur, 450 ft from n and 150 ft from w line. Milam O. & G. Co., Beaumont, White 2, L. Taylor sur.

MOORE COUNTY—Skelly Oil Co., Tulsa, Byrd-Armstrong 6, J. W. Procter sur, 660 ft e of No. 4; Byrd-Armstrong 7, J. W. Procter sur, 660 ft e of No. 5.

MONTAGUE COUNTY—Texas Co., Wichita Falls, Gist B 8, Wm. Donohoo sur, 447 ft no of No. 7.

PANOLA COUNTY—Kirby-Rowe Drilling Co., Shreveport, La., Adams 2, E. Jones sur. Logan Synd., Shreveport, La., McNeese 1, A. Booker sur, 1671 ft from n and 1329 ft from w line. Eureka Nat. Gas Corp., Shreveport, La., Gulley 3, J. Matthews sur, se corner.

REAGAN COUNTY—Big Lake Oil Co., Texon, University 2C, S 1, B 2, Univ Lands sur, 125 ft n of No. 39; University 1C, S 1, B 2, Univ. Lands sur, 159 ft s of No. 42; University 159, S 1, B 2, Univ Lands sur, 150 ft s of No. 131.

SHACKLEFORD COUNTY—J. H. Fulcher, Eastland, Kinder 1, S 37, Blind Asy. sur, 200 ft from w and 150 ft from s line. A. D. Robinson, Dallas, Blach 6, 372 TE&L sur. E. M. Trent O. & G. Co., Abilene, Matthews 5, S 33, B 1, E.T.Ry. sur, 150 ft from e and 750 ft s line. T. G. Shaw, Fort Worth, Rice 25, S 20, Rayland Asy. sur, 300 ft n of No. 21. Josephine Oil Co., Dallas, Matthews 2, S 56, E.T.Ry. sur, 150 ft from w and 1860 ft from s line. Roser & Pendleton & Phillips Pet. Corp., Bartlet-

# EVERYTHING *for the* OIL WELL

## 1890....1929

*Thirty-nine years* have intervened since the foundation of the Peden Iron & Steel Co. was laid. The development of the Texas coastal oil fields played an important part in the rapid strides of progress made by the Company since oil was first discovered in commercial quantities. Goose Creek, Batson, Damon Mound, Sour Lake, West Columbia and Blue Ridge all depended on this house for their supplies—During all these years the Peden Co. has kept apace with the oil industry in Texas, and is now, as in the early days recognized as the foremost oil well supply house in Texas.

Tools, equipment and supplies of the leading manufacturers of the country are carried in our warehouses at Houston, San Antonio and Shreveport for quick shipment. Our organization is experienced in handling the requirements of the oil industry and capable of rendering that service it is the buyer's right to expect.

- Oil Well Pipe, Tubing and Casing
- Pipe Fittings and Valves
- Mud-Laden Fluid
- Pipe Wrenches
- Working Barrels
- Oil Well Screens
- Sucker Rods
- Turbo Generators
- Oil Country Boilers
- Pumping Jacks
- Rotary Drills
- Oil Well Spudders
- Drilling Derricks
- Drilling Rigs and Tools
- Draw Works
- Elevators and Tongs
- Tool Joints
- Roller Bits
- Wire Rope

THE LARGEST SUPPLY HOUSE IN THE SOUTHWEST

**PEDEN IRON & STEEL CO.**

HOUSTON – SAN ANTONIO – SHREVEPORT

ville, Okla., Bernstein A5, 532, TE&L sur, 300 ft ne of No. 1. R. H. Alexander, Fort Worth, Matthews 1, GH&H sur, 150 ft from n and 1450 ft from w line. Roeser & Pendleton, Inc., & Marland Prod. Co., Albany, Cook A10, S 83, F.T.Ry. sur. Cranfill Reynolds, Cisco, Flippen F1, S 34, T&P Ry sur, 2170 ft from n and 150 ft from e line. Prairie O. & G. Co., Ranger, Cottle 1, S 15, Bayland Asy. sur, 220 ft from w and 2442 ft from n line. M. E. Croom et al, Dallas, Goodwin 1, S 48, B 14, T&P sur, 150 ft from n and e lines. Scott & Walke, Albany, Grathe 3, 567 TE&L sur, 150 ft from n and w lines. C. B. Taylore et al, Abilene, Leach 1, S 23, L.A.L. sur, 750 ft from n and 150 ft from e line. Roeser & Pendleton, Inc. & Marland Prod. Co., Albany, Cook A38, S 61, E. T. Ry. sur, 415 ft n of No. 26; Cook A39, S 61, E.T.Ry. sur, 435 ft s of No. 36. Milham Corp., San Antonio, Moore 31A, 1561, TE&L sur, 300 ft e of No. 31. Grisham-Hunter Corp., Abilene, Davis 1, S 16, B 14, T&P sur, 150 ft s and e lines; Davis 1, S 17, B 13, T&P sur, 200 ft from s and w lines. Skelly Oil Co., Tulsa, Okla., Matthews 4, S 32, E.T.Ry. sur, 150 ft from e and 450 ft from s line. E. A. Engel, Albany, Matthews 2, S 32, E.T.Ry. sur, se corner.

STEPHENS COUNTY—O. R. Cooper, Breckenridge, Compton 1, S 8, B 7, T&P Ry sur, 300 ft from w and 700 ft from s line. Teci Prod. Co., Breckenridge, Norton 3, 1218, TE&L sur, 1050 ft from n and 2031 ft from w line. Texas Fidelity Oil Corp., Fort Worth, Bargsley 1, S 68, B 6, T&P Ry sur, 600 ft from n and 200 ft from e line.

SMITH COUNTY—Pure Oil Co., Fort Worth, William 1, A. Rodriquez sur, 1000 ft from w and 150 ft from s line.

THOCKMORTON COUNTY—Amerada Pet. Corp., Fort Worth, Petty 1, 914, TE&L sur, 889 ft from e and 450 ft from s line.

TAYLOR COUNTY—Jno. B. Jameson, Concord, N. H., Webb 1, S 46, L.A.L. sur, 150 ft from s and w lines.

WICHITA COUNTY—J. W. Caldwell, Wichita Falls, Kemp 12, S 26, B 7, W.V.F.L. sur, 340 ft s of No. 11. J. A. Fisher, Wichita Falls, Fee 6, S 24, B 5, L. M. Cellins sur, 175 ft w of No. 1. Harry Hines, Wichita Falls, Burnett A1, H. P. Meade sur, 150 ft from w and 450 ft from s line.

WASHINGTON COUNTY—W. D. Anderson, Fort Worth, Rubenstein 1, S. M. Williams sur, 300 ft from n and e lines. Sun Oil Co., Dallas, Grote 6, N. Clay sur 351 ft from sw of No. 2.

WILBARGER COUNTY—Thelma Wells et al, Vernon, Waggoner 1, S 9, B 4, H&TC sur, 150 ft from n and w lines. Waggoner Ref. Co., Inc., Electra, Waggoner H 8A, S 24, B 4, H&TC sur, 300 ft ne of No. 7. C. P. Burton, Wichita Falls, Waggoner G 1, S 18, B 4, H&TC sur, 150 ft from s and e lines. Texas Co., Wichita Falls, Waggoner D3, S 43, MEP &P sur, 410 ft e of No. 2. Roy I. Carter, Wichita Falls, Waggoner 1, S 9, B 4, H&TC sur, 150 ft from n and w lines.

WHARTON COUNTY—Ferdinand Heine, Jacksonville, Kostelnik 5, S. F. Austin sur, 708 ft from w and 650 ft from s line. Sun Oil Co., Beaumont, Thomas 6, S. F. Austin sur, 485 ft s of No. 5.

YOUNG COUNTY—Robertson Drilling Co., Fort Worth, Gilmore 2, B 14, Y.C.S.L. sur, 450 ft from n and 1020 ft from w lines. C. A. Pennell, Loving, Calvin 1, Y.C.S.L. sur, 150 ft from n and e lines. Thos. R. Casey, Graham, Bagley 1, P. Averett sur, 450 ft from nw and 150 ft from ne line. Maycamp Drilling Co., Wichita Falls, Prideaux 1, A. Rohus sur, 150 ft s and e lines. Barkley & Meadows, Wichita Falls, Stewart 24, D. Dawson sur, 300 ft s of No. 21. Wooten & Reed, Graham, Vick 1, P. R. Splane sur, 150 ft from n and w lines. W. R. Stafford, Graham, Dailey 1, S. Tynes sur, 150 ft from s and w lines. O. Bratcher et al, Loving, Edwards 2, S. Tynes sur, 300 ft from s of No. 1; Prideaux 2, S. Tynes sur, 300 ft e of No. 1.

## LOUISIANA

ASCENSION PARISH—Burnside Oil Co., Inc., New Orleans, Paul Robert 2, T 10s, A 3e, 6180 ft s of sw c Frac. Sec. 13 and 1000 ft e of w line of Paul Robert Plantation.

CADDO PARISH — Falcon Oil Co., Inc., Shreveport, Muslow B-1, 29-20n-15w, 1725 e and 753 ft w of nec.

CALCASIEU PARISH—Gulf Ref. Co. of La., Houston, Texas, Indlstrial Lbr. Co. 13, 25-9s-13w, 1527 ft s and 200 ft w of nec; Lutcher-Moore 9, (amended permit), 19-9s-12w, 250 ft n and 50 ft e of sw c nw ne; Lutcher-Moore 14, 19-9s-12w, 513 ft n and 105 ft w of swc nw ne; Lutcher-Moore 15, 19-9s-12w, 200 ft s and 200 ft e of nwc sw. Union Sulphur Co., Sulphur, Fee 742, 29-9s-10w, 106 ft s and 660 ft w of center; Fee 743, 29-9s-10w, 11 ft s and 300 ft w of center. Vacuum Oil Co., Houston, Texas, Miller A-23, 9-10s-9w, 970 ft e and 484 ft n of sw cor of ne¼. Vinton Pet. Co., Orange, Vincent 21, 34-10s-12w, 685 ft from w l and 169 ft from s l of blk 136 Vincent Subdivision in Sec. 34.

CAMERON PARISH — Federal Pet. Co., Houston, Texas, Ludger Duhon 1, 28-12s-10w, 63 ft s and 49 ft w of nec sw sw; Mrs. Doris Kaough 1, 28-12s-10w, 67 ft n and 74 ft w of sec nw sw; Mrs. Doris Kaough 2, 28-12s-10w, 185 ft n and 73 ft w of sec nw sw; Mrs. Doris Kaough 3, 28-12s-10w, 298 ft n and 71 ft w of sec nw sw. Rycade Oil Corp. & Humble O. & R. Co., Houston, Texas, Gulf Land Co. 2, 30-12s-10w, 1300 ft e and 100 ft s of nwc. Sun Oil Co., Beaumont, Texas, Vincent 2, 28-12s-10w, 66 ft n and 168 ft e of swc ne sw. Yount-Lee Oil Co., Beaumont, Texas, Kaough 1, 28-12s-10w, 80 ft n and 380 ft w of sec nw sw; R. Vincent 2, 28-12s-10w, 50 ft s and 260 ft e of nwc se sw.

EAST CARROLL PARISH—Palmer Corp. of La., Shreveport, O'Brien 2, 6-19n-11e, 1220 ft n and 3960 ft w of sec.

GRANT PARISH—J. W. Moffitt, et al, Shreveport, Ball Lbr. Co., Inc. 1, 29-7n-1w, 200 ft n and 200 ft e of swc sw ne.

WEBSTER PARISH — Magnolia Pet. Co., Shreveport, Sallie Coyle 1, 2-22n-11w, 331 ft s and 376 ft w of nec se ne.

## CALIFORNIA

BELRIDGE—Berry Oil Co., No. 101, 30-28-21. Union Oil Co., King 10, 30-28-21; King 11, 30-28-21.

KETTLEMAN HILLS—General Pet. Corp., No. 2, 20-22-18. Standard Oil Co., No. 41, 3-22-17.

LAWNDALE—Shell Oil Co., Barkall 1, 17-3-14; Smith-Community 1, 17-3-17. Sam N. Lewis, No. 6, 21-3-14. Coast Line Oil Co., Ltd., Taylor 1, 21-2-14. West American Oil Co., Pan-Cal 1, 16-3-14.

MIDWAY—Standard Oil Co., No. 2, 1-32-23; No. 4, 9-32-24.

LOS ANGELES COUNTY—Coast Line Oil Co., Ltd., No. 1, 21-5-17.

SANTA FE SPRINGS—George F. Getty, Inc., S. F. S. 20-A, 5-3-11; S. F. S. 29, 5-3-11; S. F. S. 30, 5-3-11. General Pet. Corp., Santa Fe 234, 5-3-11; Santa Fe 235, 5-3-11; Santa Fe 152-F, 5-3-11. Santa Fe Comm. 179-F, 6-3-11. Union Oil Co., Farwell 12, 5-3-11; Farwell 13, 5-3-11; Farwell 14, 5-3-11; Farwell 15, 5-3-11; Bell 45, 6-3-11; Bell 44, 31-2-11; Bell 46, 31-2-11; Howard 12, 31-2-11. General Pet. Corp., Santa Fe 143, 5-3-11.

SANTA BARBARA COUNTY — Channell Oil and Development Co., Fellowship 1, (illegible) 4-27.

SANTA PAULA—Empire Oil Co., No. 4, 13-4-21.

SOUTH MOUNTAIN—F. A. Craise, Schieferle 1, 17-3-20.

VENTURA—Shell Oil Co., Taylor 37, 28-3-23.

## KANSAS

BUTLER COUNTY—Phillips & Shell, McCellan 1, se sw, 23-26-6e.

CHASE COUNTY—Haukey et al, Ryan 1, nw ne, 22-19-8e.

COWLEY COUNTY—Marland, Graham 1, ne sw, 9-32-4e.

ELK COUNTY—Maun et al, Shrader 4, c se sw, 12-31-8e; Maun et al, Shrader 3, c sw sw 12-31-8e. Cfort & Hunt, Dory 1, ne se, 18-30-9e.

GREENWOOD COUNTY—Rockhill & Taylor, Miller 1, nw sw, 2-25-10e.

COFFEE COUNTY—R. E. Smith et al, Jasper 1, sw se, 15-19-14e.

SEDGWICK COUNTY—White Eagle, Baylor 1, sw nw nw, 6-26-1e. Phillips, Pfeiffer 1, sw ne, 6-26-1e. Alladin Oil Co., Smyser 4, se, 36-25-1w; Alladin, Smyser 3, sw se se, 36-25-1w.

## OKLAHOMA

BECKHAM COUNTY—Benedum Trees Oil Co., No. 1, sw, 30-8n-25w.

CARTER COUNTY—Shell, Coe Johnson 1, se nw sw, 18-4s-1w.

COTTON COUNTY — Perkins & Cullum, Priddy 6, ne nw ne, 3-2s-10w.

CREEK COUNTY—Wilcox, Craig 1, nw, 30-14-10e. Olean Pet. Co., Bigpond 5, ne, 36-15-7e. Billingslea & Shaffer, Lewis 2, owdd, sw, 10-15-8e. Cole et al, Hull 1, ne nw se se, 32-18-11e. Magnolia, Musselman 15, nw ne nw se, 8-18-7e, owdd.

GARVIN COUNTY—Tidal et al, Haberson 1, e se se, 31-5n-2e.

GRADY COUNTY — Merdian Gas Co., Woods 4, nw, 2-4n-8w. Oklahoma Gas Util. Corp., Dryden 3, nw se ne se, 35-5n-8w.

HUGHES COUNTY—Magnolia, Godfrey 1, se sw se, 6-8-9e. Superior & Amerada, Jimpoy 1, sw se, 4-8-9e. Independent & Mid-Continent, McGirt 1 ,se 31-9-9e.

JEFFERSON COUNTY—O. V. Beck, Seay 1a, sw se, 34-6s-5w.

KIOWA COUNTY—D. M. Hyde, Ballard 1, nw, 26-3n-18w.

OKFUSKEE COUNTY—Barnsdall, Barnett 1, se ne se, 24-11-10e. C. L. McMahon, Fixico 3, se nw se, 29-12-10e. Producers & J. I. Carey, Monarye 3, nw se se, 29-12-10e.

OKMULGEE COUNTY—Tiger Mountain, Tucker 2, owdd, cnl ne se, 2-13-14e. Forman & Wise, Rowe 5, ne, 10-15-14e. Trout Drilling Co., Bruner 1, nw sw se, 20-16-14e.

OSAGE COUNTY—Mid Kansas O. & G. Co., No. 5, se ne se sw, 36-22-8e. Silurian No. 1, nw se se, 1-23-11e. Peters Pet. Co., No. 9, se nw se nw, 26-25-9e. Nath Jones No. 1, se sw, 2-26-8e. Peters Pet. Co., No. 2, se sw nw, 11-26-8e.

PAWNEE COUNTY — Superior & Swift, Daniels 1, sw nw ne, 25-20-9e. Mowry & Fugate, Turner 1a, cwl nw nw, 18-20-8e.

POTTAWATOMIE COUNTY — Empire & Amerada, Bullock 2, nw ne nw, 8-9-5e. Wallace 4, nw ne sw, 17-8-5e. Phillips, Wallace 3, ne nw sw, 17-8-5e. Magnolia, Caudle 1, nw sw, 13-7-4e. Houston Oil Co., James 1, ne nw sw, 17-7-4e.

SEMINOLE COUNTY—Pure, Weaver 1, ne sw ne, 12-8-5e. Gypsy, Barkus 8, nw se sw, 6-8-6e. Gypsy, Barkus 4, nw sw nw, 7-8-6e. Shell & Papoose Oil Co., Maines 8, sw, 7-8-6e. Sinclair, Jefferson 2, ne se, 23-5-7e. Shell, Tiger 1, se ne, 5-6-8e. Magnolia, McGirt 1, se ne nw, 16-8-8e. Carter, Fuswa 4, nw, 18-8-6e. Gypsy, Hardy 7, nw sw ne, 7-8-6e. Gypsy, Barkus 10, sw nw sw, 6-8-6e. Gypsy, Barkus 9, nw sw sw, 6-8-6e. Carter, Jackson 1, ne se se, 10-9-6e.

STEPHENS COUNTY—Pace et al, McMasters 2, se nw ne, 13-2s-8w. Ven Mex Pet. Co. & Mid-Continent, Thompson 1, ne se se sw, 35-1s-8w.

TULSA COUNTY — Devonian Oil Co., Brown 2, cel w½ se nw, 4-18-12e, owdd.

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Casper, Wyo.—Since the discovery oil well was drilled in in the Billy Creek gas field in central Johnson County last week, and a production estimated at 1000 barrels obtained there has been no further progress on the well. It is shut in awaiting erection of adequate tankage, and it may be several days before this is accomplished. The well is standing at 3240 feet, and produces light, green oil of a gravity similar to the Salt Creek crude. It is owned jointly by the Carter Oil Company, who drilled it, and the Consolidated Royalty and Western Exploration Companies. Its discovery will have an encouraging effect on wildcatting in central Wyoming where many structures remain to be thoroughly tested.

---

Denver, Colo.—Southeastern Colorado will undoubtedly see much activity this summer, Marland Production Company, among others, having recently placed on record leases comprising about 60 quarter sections near Lamar, in Prowers County.

## *Chester Double Lengths Do Not Leak and Will Not Break Under Severest Tests*

THESE pieces welded in double lengths were subjected to the following extreme tests:

The pieces were dropped several times from height of railroad car upon a rail. These tests in no way fractured or harmed the weld.

The pieces were anchored near the gas weld and a chain attached to a locomotive was secured near the end of the pipe. The locomotive pulled on the pipe distorting it as shown in the photograph near weld indicated by arrow. The weld remained intact.

No double length pipe can be stronger than Chester Double Length Pipe.

The field test of the long 10-inch line from which these pieces were selected at random did not develop a single leak in the weld.

The careful inspection, crushing tests and final hydrostatic test after welding into double lengths insure 100% satisfaction in service.

*Chester also makes all classes of Genuine Wrought Iron Tubular Goods*

**South Chester Tube Company, — Chester, Pa.**

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H. A. Morse, 30 Church St., New York City
J. P. Cooney, 715-716 A. G. Bartlett Bldg., Los Angeles, Cal
J. P. Steele, 305 Petroleum Bldg., Fort Worth, Texas

*District Offices:*

*Tulsa, Oklahoma*—J. D. Swartz, 247 West 13th St., Tulsa, Oklahoma
*Houston, Texas*—P. H. Selk, Jr., 2108 Mills St., Houston, Texas
*District Warehouses:* Houston, Texas; Thenard, Cal.

*Distributors:*

Prichard Supply Co. Mannington, W. Va.
Mather & Waynesburg, Pa.
Kane Supply Co. Kane, Pa.
Petroleum Supply Co., Houston, Tex., Norphlet, Ark.
Wagner Supply Co., Fort Worth, Cross Plains, Breckenridge, Iraan, Wink, Forsan and Odessa, Texas.
Bridgeport Machine Co., Wichita, Kansas, and Branches throughout Kansas and Oklahoma.
United Oil Well Supply Co., 712 A. G. Bartlett Bldg., Los Angeles, Calif.
Great Northern Tool & Supply Co., Billings and Kevin, Mont.
Kemmerer and Cody, Wyoming.

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*Mid-Continent Oil Fields:* ATLAS SUPPLY CO., Tulsa and Muskogee, Okla., Fort Worth, Texas; FARLEY MACHINE WORKS CO., Arkansas City, Kas.; MID-CONTINENT SUPPLY CO., Houston, Texas.

*California Oil Fields:* AMERICAN CABLE CO., Inc., San Francisco, Calif. and W. B. Cornish, 3924 Baker Ave., Bell, Calif.

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Hoist, Haul and Handle day in and day out in the oil fields.
*Hoisting* a line of poles;
*Hauling* a rotary or boiler;
*Handling* a load of pipe.
It's all in a day's work. The No. 915 pays for itself in no time.

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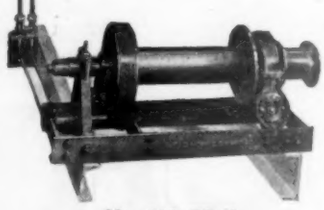

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CRANES MOTOR TRUCK WINCHES DERRICKS

# WILDCATS FROM ALL SECTIONS

## SOUTHERN CALIFORNIA

ATHENS-ROSECRANS — Burlingame Pet. Corp.'s Hamm 1, dr shale 340 ft.

BELLFLOWER—World Pet. Corp.'s Blythe 1, sd 5010 ft.

COSTA MESA—Mesa Pet. Corp.'s B. A. 1, 16-6-10, dr hard sand 3600 ft.

DAVIDSON CITY—California Well Drilling Co.'s Del Amo 1, sd 7660 ft.

DOWNEY—Rio Grande Oil Co.'s Osborne 1, dr hard sand 4060 ft.

FULLERTON—Shell Oil Co.'s Stern 1, coring 6450 ft.

GARDEN GROVE—Texas Company's Crawford 1, dr hard sand 3940 ft.

HUNTINGTON BEACH—Western Drilling & Producing Co.'s 1, co 4430 ft.

INGLEWOOD—California-Eastern Oil Co.'s Pollard 1, dr shale 4075 ft. J. A. Woolward's 1, dr shale and sand 3222 ft. Ring Pet. Corp.'s Simons 1-A, dr gray sand 4365 ft.

LOS NIETOS—R. W. Jackson's 1, dr shale 200 ft.

MANHATTAN BEACH—Western Drilling & Producing Co.'s C-S 1, dr sand 2278 ft.

MAYWOOD—Richfield's Vernon 1, coring 4905 ft.

NEWHALL — California-Eastern Oil Co.'s Hasley 1, trying to shut off water, td 3210 ft.

POMONA—Pomona Oil Assn.'s 1, fsh 975 ft.

PUENTE—Richfield's Didier 1, re-cemt, td 3435 ft.

RIVERSIDE COUNTY—Hemet Pet. Co.'s Ward 1, 4¾-in cas cemt 3230 ft. Spindletop Oil Synd.'s Salton 1, sd 3460 ft.

SAN BERNARDINO COUNTY—Mahala Oil & Gas Co.'s 1, will test at 4010 ft.

SAN DIEGO COUNTY—Western Pacific Oil Co.'s 3, dr shale 3378 ft. S. S. Turner's Baler 1, dr blue sand 1728 ft.

IMPERIAL COUNTY—Imperial Valley Pet. Co.'s 1, dr sandy shale 1475 ft.

## NORTHERN CALIFORNIA

**Completions**

| Company, Well and Location | Initial Production Bbls. | Depth |
|---|---|---|
| DELANO— | | |
| S. A. Delzel's Vedder 1, 4-26-27..... | * 3980 | |
| SAN EMIDIO— | | |
| Standard Oil Co.'s KCL-6-1, 35-11-22 | * 3780 | |

### KERN COUNTY

BELRIDGE—H. J. Bardwell's 1, 24-28-20, making production test, td 1005 ft.

BUTTONWILLOW—Doheny-Stone Drilling Corp.'s Salisbury 1, 7-29-24, running liner to 4750 ft. Milham Exploration Co.'s Harris 1, 8-28-23, dr shale 2575 ft. Richfield's Kerwin 1, dr shale 5080 ft; Redding 1, 36-27-23, dr hard sand 1526 ft.

COMANCHE POINT—W. W. Stabler's Tejon 1, 23-32-29, fsh for dr pipe 3390 ft.

EDISON—Symark Oil Co.'s 1, 24-29-29, dr 1200 ft.

GOULD HILLS—Bomke and Ball's Larson 1, dr brown shale 2310 ft. Elmer Oil Co.'s 1, 2-29-20, cemt 8¼-in cas 1760 ft. Ozena Oil Co.'s 1, 8⅝-in cts cemt 2930 ft.

McKITTRICK—The Texas Co.'s Aldridge 1, 4-30-22, dr shale 3475 ft.

RIO BRAVO—Elmer Oil Co.'s 1, 8-28-25, dr gray sand and shale 5805 ft.

### SANTA BARBARA COUNTY

CARPENTERIA—Continental's Franklin 1, trying to land 7-in cas, td 3990 ft, gas pressure held back with barrite.

POINT CONCEPCION—Standard's Gerber 1, dr shale 288 ft.

SANTA BARBARA—Channell Oil & Development Co.'s F-1, 29-4-27, rigging up. Exeter Oil Co.'s Duncan 1, rigging rotary. Padre Oil Co.'s D. P. R. 1, 8-4-29, rig. Olympic Oil & Refining Co.'s Palisades 1, 29-4-27, rig.

SANTA MARIA—Shell's Union Sugar 1, 36-10-35, dr brown shale 2135 ft.

TORTUGA CANYON—Standard's Schyvers 1, dr shale 1325 ft.

### VENTURA COUNTY

CAMARILLO—American Oil Co.'s 1, 33-2-20, dr 793 ft.

CONEJO—Triunfo Oil Co.'s 1, 24-1-19, sr 530 ft.

FILLMORE—Frank Oil Co.'s 1, 35-4-20, dr 150 ft. Federal Oil Co.'s Elkins 1, 5-3-19, m 2950 ft.

HEUNEME—The Texas Co.'s Bernard 1, rigging rotary.

OJAI—R. E. Burke's McDonnell 1, 11-4-23, sd 2840 ft. Continental's Fox 1-M, 21-4-22, pulling 6¼-in cas, td 3700 ft; Thompson 1-A, dr brown shale 5515 ft. Miley Oil Co.'s Casitas 2-A, 12-3-24, dr sand 800 ft.

PIRU—Pacific Western Oil Co.'s 5, 3-4-28, dr sand and shale 3430 ft.

SANTA PAULA—W. W. Brayant's Anlauf 3, 21-4-21, dr brown shale 845 ft. Empire Oil Co.'s 4, 13-4-21, rig. San Pedro-Pt. Fermin Synd.'s 1, 13-4-21, running 10-in cas to 700 ft.

SATICOY—Standard's Citrus 5, 10-2-22, 11-in cas cemt 4655 ft.

SFSPE—The Texas Co.'s McGuire 1, rig.

SIMI—Shell's Marr 1, 31-3-17, coring and sr 1950 ft.

SOUTH MOUNTAIN—Ring Pet. Corp.'s Converse 1, 23-3-21, rigging to pump, td 4840 ft.

### MISCELLANEOUS

FRESNO COUNTY—Currency Pet. Co.'s 1, 28-21-14, dr shale 1262 ft. Dudley Ridge Synd.'s 1, dr shale and sand 985 ft. Hornaday and Huggins' 1, 32-14-28, dr 800 ft. KCL Oil Co.'s 1, 7-19-15, new rig. Paragon Oil Co.'s 19, 17-19-15, rigging cable tools. Thomas Pet. Co.'s 1, 33-22-17, dr 375 ft.

MONTFREY COUNTY—Shell's Dudley 1, 15-22-19, dr shale 580 ft.

MERCED COUNTY—Applegate and Ranshaw's 1, 24-6-10, cemt 18-in cas 2245 ft.

SAN LUIS OBISPO COUNTY—Dollar Oil Co.'s H-K 1, 18-31-22, dr shale 300 ft; Vishnu 1, 22-32-22, co 1785 ft. Keefe-Morrison's Phelps 1, 18-31-22, dr shale 900 ft. Lincoln Drilling Co.'s 8-32-23, dr shale 500 ft. Thomas H. Purman's 1, 12-32-22, dr brown shale 1625 ft. North Star Oil Co.'s 1, 11-22-28, dr shale 3228 ft. Panorama Oil Co.'s 1, 7-31-21, pulling 6¼-in cas, td 3420 ft. See Canyon Oil Co.'s 1, 18-31-12, dr shale 1155 ft. Texas Coal and Oil Co.'s Dutton 1, 35-32-14, fsh 900 ft. Union's Russ 1, 24-32-15, dr brown shale 3200 ft; Chandler 1, 12-32-15, dr shale 2942 ft. Western Drilling and Producing Co.'s 1, new lcn.

TULARE COUNTY—Angiola Development Co.'s 1, 27-22-23, dr gray sand 4675 ft.

## KANSAS

BARBER COUNTY—Barbara Oil Co.'s Lytle 1, cnl ne ne sw 12-33-13w, dr 4434 ft. Barbara's Blunk 1, c ne nw 20-34-13w, dr 4892 ft. Rolands et al's Pickens 1, ne nw ne, 27-30-14w, sd 4223 ft. Allison & Fitzwilliams' Morise 1, c nw se se 9-30-12w, rig.

BUTLER COUNTY—LaRebb et al's Bronsenger 1, ne se 24-27-3e, ru. Phillips & Shell's McClellan 1, se sw 23-26-6e, rig.

**ABBREVIATIONS**

**NOTE—The following is the explanation of abreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million feet of gas; abn—abandoned; bbls—barrels; b.s.—basic sediment; cas casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in—inches; lcn—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; wosr—waiting on standard rig.**

CHASE COUNTY—Grisner & Fowler's Carson 1, ne ne 9-21-7e, sd 150 ft.

COWLEY COUNTY—Pyle & Sutter's Lindstrum 1, se ne 9-25-4e, show oil 3304-31 ft, dr. Wakefield & Osborne's Osborne 1, nw ne 18-20-3e. Producers Oil Co.'s Jones 1, c sw ne se, 31-26-2e.

EDWARDS COUNTY — Amerada-Wilcox, Tensil 1, nw cor 32-35-19w, ur 6-inch csg, 4445 ft. British-Americscan Oil Co.'s McCarty 1, ne nw 31-25-17w, fsh 2870 ft.

ELLIS COUNTY — Rush Oil Co.'s Gatewood 1, nw 4-15-20w, sd 1100 ft. Finney & Weimer, Freeman 1, nw se se 24-15-20w, spudded and sd. Empire's Wann 1, ne 31-12-19w, dr 3850 ft. Phillips' Brull 1, c nw 34-14-17w, dr 3560 ft. Phillips' Schmeidler 1, nw cor 20-12-17w, sd 1685 ft. Labette Oil Co.'s Urbank 1, ne nw nw 19-15-16w, 6-inch casing 3755 ft. Cosby et al's Robbins 1, sw nw 15-14-16w, ru. Phillips' Johnson 1, sw ne 9-13-19w, dr 865 ft. Derby & Empire's' Krause 1, nw sw sw 17-14-19w, dry and abn 3881 ft, hfw. Prairie's Weiland 1, c se se nw 1-13-16w, rig. Phillips' Unknown 1, ne se 12-13-16w, rig.

GREENWOOD COUNTY—P. H. Balieu's Bright 1, ne sw 22-27-1e, sd 1210 ft.

HARPER COUNTY—Amerada's Mendiville 1, c se se 24-34-6w, co 5353 ft.

HARVEY COUNTY — Margaret Gay Oil Co.'s Grouse 1, nw ne nw 29-23-1w, dr 2030 ft. Helmerick & Payne, Lindamood 1, c sw ne sw 2-22-1e, dr 1790 ft. Empire's Tangeman 1, c sw ne ne 19-22-1e, dr 2005 ft. R. F. Garland's Cox 1, ne cor 27-24-1w, dr 2725 ft. Fisher & Lauck's Regier 1, nw ne 17-23-2e, dr 2159 ft. Austin's Neiman 1, swc 21-24-2e, fsh 3106 ft. Hartman & Skaer & White Eagle's Seaman 1, c nw ne se 26-24-1e, rig. Roth & Faurot's Dombrowski 1, nwc 26-22-1e, ru. Jolly & Ogg's Schowalter 1, nec 11-24-1w, dr 660 ft. Patton et al's Buning 1, c se sw ne 18-24-1e, rog.

JEFFERSON COUNTY—Wichita Oil Co.'s Simpson 1, nw sw sw 19-10-17e, ru and sd.

LANE COUNTY — Blankenship Pet. Co.'s Shaeffer 1, nec ne 24-16-28w, spudded and sd.

MARION COUNTY — Connel & Prairie's Zirak 1, se sw 3-18-3e, spudded. Meyer's Papp 1, sw ne 10-18-2e, spudded. Hartman & Skaer & White Eagle's Kline 1, ne nw 28-18-3e, dr 1795 ft. Hanna's Pankratz 1, ne ne sw 13-20-3e, rig.

MARSHALL COUNTY — Irwin et al's Cooper 1, ne nw 10-3-7e, spudded.

MORRIS COUNTY—Hiatt et al's Blythe 1, nw ne 35-15-5e, spudded.

McPHERSON COUNTY — Ted Washabaugh's Vosshell 1, ne ne 9-21-3w, ur 8-inch 2558 ft. Lariaux et al's Martinan 1, ne se 9-19-3w, rig. Mid Kansas' Yoder 1, c nw sw 8-20-4w, dr 2945 ft. Helmerich & Payne's Rusen 1, c ne se sw 23-21-2w, rig.

NESS COUNTY — Barnsdall's Lauck 1, c sw 35-18-21, dr 2130 ft.

OTTAWA COUNTY—Anderson et al's Bank 1, ne nw 28-10-2w, dr 3140 ft.

PAWNEE COUNTY—F. C. Troupe's Lovett 1, cel ne ne 31-21-16w, sd 1560 ft.

PHILLIPS COUNTY—Watsonian Oil Co.'s Marklein 1, ne sw 21-3-19w, ur 6-inch casing. Watsonian & British-American's Weinman 1, c c sw sw 34-2-19w, fsh 870 ft.

RICE COUNTY—Allison & Fitzwilliams' Poland 1, ne sw ne 36-19-8w, cellar. Higgins & Steinbuble, Shurr 1, ne sw 21-20-10w, dr 1700 ft.

RUSH COUNTY—Danciger O. & R. Co.'s Pinonka 1, c ne sw ne 17-19-17w, sd 600 ft. Sinclair's Beiching 1, nw ne nw 9-16-16w, ur 5-inch casing 3718 ft. Central Commercial's Brack 1, nec sw sw 12-17-16w, spudded and sd. Phillips' Legleiter 1, c ne nw se 10-16-18w. Barnsdall's Brock 1, c se se 21-17-17w, rig. Danciger's Swindt 1, c sw se sw 22-17-17w, rog.

SALINE COUNTY—M. Esty et al's Peterson 1, c ne 6-16-5w, spudded and sd. Nathan-Jones et al's Robertson 1, nw sw 27-14-2w, sd 3085 ft.

SEDGWICK COUNTY—Magnolia's Wise 1, nwc 36-28-1w, dr 1325 ft. Barnsdall's Samuels

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1, ne nw 24-25-1e, pulling tubing to swab. Barnsdall's Faber 1, sw ne 6-27-1w, dr 3600 ft. Morgan & Tilley's Fitzgerald 1, nw ne 5-26-1w, dr 450 ft. Van Zandt & Mason's Fox 1, c nw sw 19-25-1w, sd 3504 ft, hfw. Connell Oil Co.'s Cross 1, ne cor 27-25-1w, dr 3459 ft. Morgan et al's Corn 1, sw ne 28-25-1w, dr 2715 ft. Kyser et al's Stroot 1, sw nw 28-26-1w, dr 2900 ft. H. H. Patton's Ryder 1, nec 22-25-1e, set 8-inch at 2475 ft. Lario & Blair's Tjaden 1, c ne se 22-29-2w, sd 2200 ft. Maglason's Buckles 1, nw se 3-28-1w, dr 2650 ft. Ramsey's Schuessler 1, swc 1-25-1e, dr 2100 ft. Sullivan et al's Shelly 1, c nw ne se 32-29-2e, rig. Reynolds & Rogers' Updegraft 1, c se sw se 26-25-1w, rig. McCulloch et al's John 1, c ne sw ne 24-29-1e, fsh 3370 ft. Miller & Wentz's Shaeffer 1, nw ne 9-27-2w, dr 410 ft. Lewis et al's Taylor 1, nw ne 23-27-2e, dr 1765 ft. Shawver et al's Reeves 1, c se sw se 19-28-1e, dr 2650 ft. Austin Drilling Co.'s Stuckey 1, sw nw 12-26-5w, bldg rig. Washabaugh's Harrison 1, c nw ne ne 3-26-2w, rig. Hammond & Stout's Roeder 1, sw nw 23-27-2w, timbers. Connell & Slick's Mahannah 1, c ne se se 3-25-1w, spudded. Patton & Wentz's Swanson 1, nw ne 6-26-2e, rig.

SHERMAN COUNTY—A. L. Henson et al's Murray 1, ne se nw 22-7-40w, sd 3035 ft.

SMITH COUNTY — Mid-Kansas' Blank 1, nec 4-2s-13w, 10-inch casing 2115 ft.

STEPHENS COUNTY—W. Sidwell et al's Kelly 1, sw ne 16-34-38w, dr 1310 ft. Trees Oil Co.'s Unknown 1, sw ne sw 3-35-38w, fsh 430 ft. McKenna et al's Hamm 1, se ne 10-33-38w, 2M gas 2496-2579 ft.

SUMNER COUNTY—Gypsy's Williams 1, nw se sw 16-35-3w, fsh 4400 ft. Davidson et al's Strickland 1, sw se 12-35-1w, rig.

TREGO COUNTY—Central Commercial Oil Co.'s Ellis 1, ne sw ne 20-13-21w, dr 865 ft.

WASHINGTON COUNTY—McCool & Vincent's Linn 1, nw ne 27-4-3e, ru.

## ARKANSAS

| Company, Well and Location | Initial Production Bbls. | Depth |
|---|---|---|
| OUACHITA COUNTY— | | |
| Little Fay Oil Co.'s Primm A-1, 24-15-16 | 50 | 2072 |

ASHLEY COUNTY—Atlantic O. P. Co.'s Bledsoe 1, 20-15-7, wo 2445 ft. Texas Co.'s Keiffer 1, 11-18-4, dr rock 3118 ft.

CALHOUN COUNTY—Joe Hurley's Ark. Land & Timber 1, 20-16-12, topped red beds 2977 ft coring 3007 ft.

CLARK COUNTY—Wm. Henry, Tr.'s Clark 1, 3419-21, sd 1385 ft.

CHICOT COUNTY—W. S. Smith's Meyer 1, 19-19-2, sd wo 850 ft. Joe Crawford's Cashion 1, ds stuck, td 2330 ft.

COLUMBIA COUNTY—G. W. Dawley et al's Fullenwider & Kitchen 1, 12-17-22, sd wo 2847 ft.

DALLAS COUNTY — Robt. H. Dedman's Hillman 1, 20-10-13, temp abn td 1145 ft.

DREW COUNTY—Ohio Oil Co.'s Jerome Lbr. Co. 1, 13-15-4, cemtd 8-in cas 1620 ft. (corrected.)

FAULKNER COUNTY—Gold Creek O. & G. Co.'s Stermer 1, 17-4-13, temp abn td 3462 ft.

FRANKLIN COUNTY—Ozark Nat. Gas Co.'s McElroy 1, 15-8-27, lcn.

GARLAND COUNTY—H. H. Given's Garrett 1, 1-13-19w, sdtr cable tools 2800 ft.

GRANT COUNTY—Jones & Watkins' Meek 1, 5-4-11, sd 1400 ft.

JOHNSON COUNTY—Ark. Nat. Gas Corp.'s Bynum 2, 12-10-24, set 10-in cas 1515 ft dr 1675 ft. McPherson 1, 10-10-24, dr 2250 ft.

LITTLE RIVER COUNTY—Grote et al's Allen 1, 21-12-13w, sd 2941 ft.

LOGAN COUNTY—Ark. Nat. Gas Corp.'s W. H. Parks 1, 26-8-24, waiting on 5 3/16-in cas td 4220 ft.

MILLER COUNTY—E. A. Martin, Tr.'s Dale 4, 23-15-26, dr 3145 ft.

OUACHITA COUNTY—Little Fay Oil Co.'s Primm A-1, 24-15-16, pumping 50 bbls oil td 2072 ft. Goodwin 1, 13-15-16, dr 1700 ft. McDonald Bros.' Wilson 1, 25-15-18, flowed 40 to 50 bbls in 24 hours arr pump td 2828 ft. Charles McDonald's Wilson 1, 25-15-18, tested sw through ds 2820-40 ft, coring 2865 ft. Flaucher et al's Bucks 1, 7-15-17, cemtd 10-in cas 62 ft.

UNION COUNTY—La. Oil Ref. Corp.'s Manley 1, 15-15-19, cemtd 15½-in cas 99 ft. Frank Foster et al's McDonald 1, 11-17-18, arr

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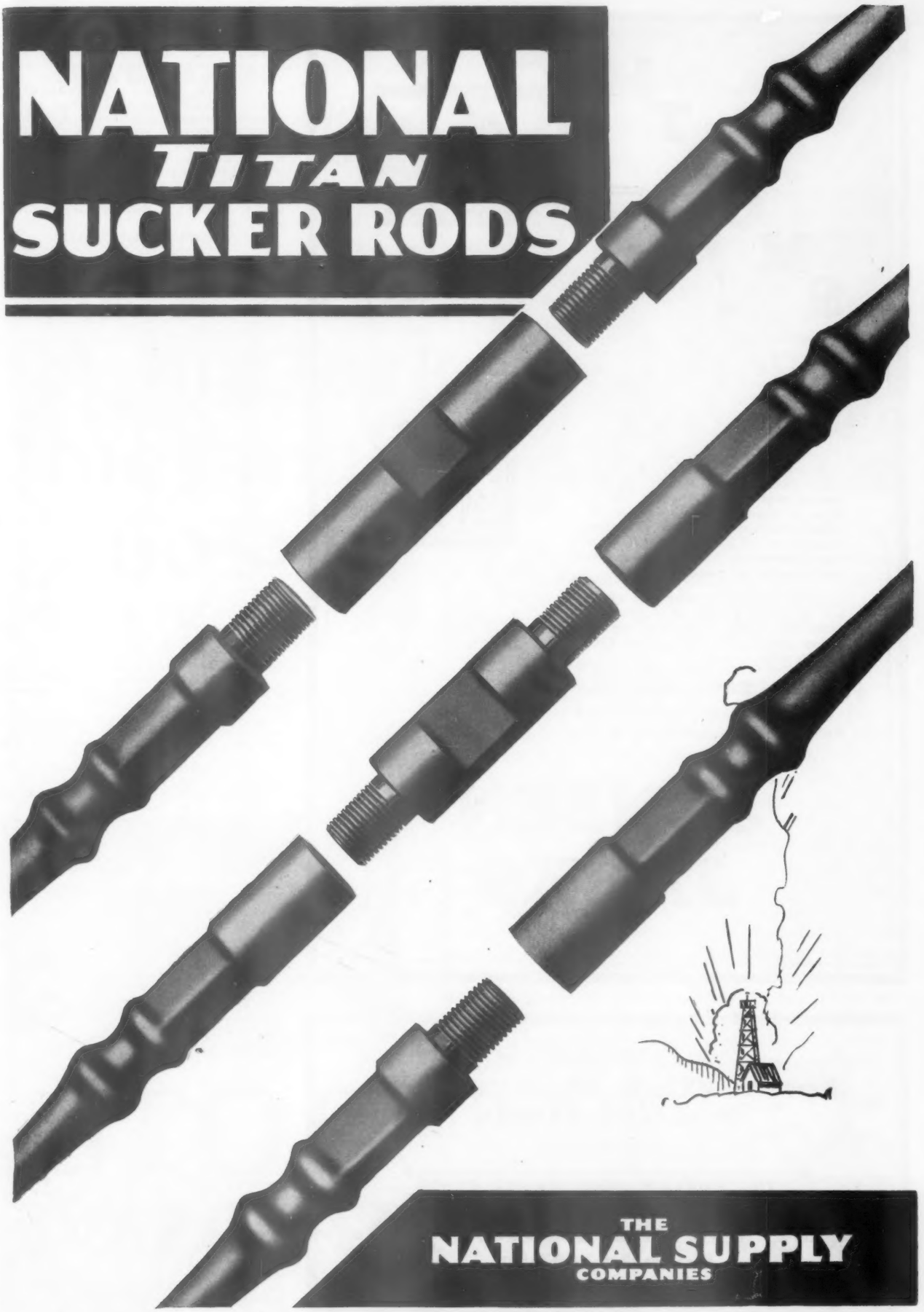

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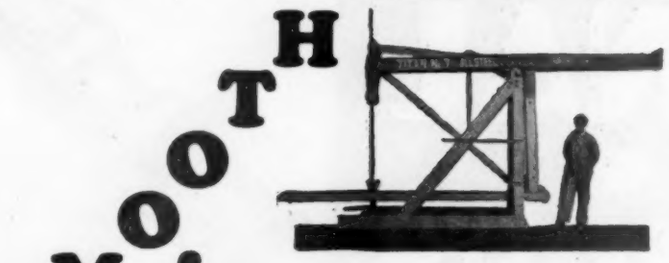

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to resume dr 150 ft. Foster et al's Murphy Land Co. 1, 22-17-17, sd 1400 ft. J. O. Moore, Tr.'s Union Sawmill 1, 11-18-12, arr to resume dr 187 ft. Carter Bell et al's Terrell 1, 27-18-14, repr rig td 2432 ft. Calgo Oil Co.'s Primm 1, 9-18-17, tested dry through ds 4359-63 ft, coring 4385 ft. J. P. Hawkins et al's Goodwin 1, 6-17-15, sd 1204 ft. McDonald Bros.' Mayfield 1, 29-19-15, sd wo 1990 ft. Frazier et al's Laney 1, 30-19-16, dk pat. Standard Oil Co. of La.'s J. R. Burns 5, 31-17-15, 6-in cas 2157 ft dr 2170 ft. Goodwin 6, 36-17-16, dk. Grimes Bros.' Hill 2, 7-18-14, rig up wo. J. C. Marcum's De Yambert 1, 5-19-4, sd 3101 ft. Gulf Ref. Co.'s T. W. Woodley 1, 6-18-14, tested dry ds test 3605 ft dr 3607 ft. Rosa L. Cook 1, 1-18-15, lcn.

## NORTH LOUISIANA

### Completions

| Company, Well and Location | Initial Production Bbls. | Depth |
|---|---|---|
| EAST CARROLL PARISH— | | |
| Palmer Corpn., Mitchner, 1, 8-19-11e | dry | 2717 |
| WEBSTER PARISH— | | |
| Magnolia Pet. Co., H. H. Branton 3, 6-22-9 | ¶3½ | 2688 |

BIENVILLE PARISH—W. P. Wallace's State 1, 16-16-10, sd 2320 ft.

BOSSIER PARISH—Big Ben Oil Co.'s Stewart 2, 15-18-12, sd wo 1300 ft. Nell & Lanier's Biedenharn 1, 23-21-14, sd 50 ft. Walker et al's Antrim 1, 28-22-14, sd 2985 ft. John F. Woodman's Bolinger 1, 9-22-11, dr 1550 ft. Magnolia Pet. Co.'s B. M. Cook 1, 2-22-11, dr 2409 ft. Sallie Coyle 1, 2-22-11, drk.

CADDO PARISH—D. C. R. Oil Co.'s Hunter Est. 1, 17-19-14, tested dry sr 1929 ft.

CATAHOULA PARISH—Lochnager O. & G. Co.'s Tal'aferro 1, 26-9-6e, sd 900 ft.

CLAIBORNE PARISH—Dixie Oil Co.'s Gilbert 1, 27-21-5w, sdtr bbls 5014 ft. El Dorado Chief Oil Co.'s Baker 1, 26-20-7, topped Blossom 2675 ft, dr 2685 ft. Smitherman & McDonald's Miller 1, 17-23-8, coring 4727 ft.

DESOTO PARISH—Benedum & Trees' Mahoney 1, 22-14-12, dr 350 ft. Nicholson 1, 2-15-14, rig up. P. J. Becker's Tull 1, 23-12-15, dk. Benson O. & G. Co.'s Jackson 1, 3-10-13, rig up. Luke Case, Tr's Boatright 1, 3-10-13, dr 1955 ft. Carlton Drilling Co.'s Stephens 2, 12-11-16, sd 2046 ft. R. O. Roy's Sample 1, 1-13-14, dr 2100 ft. Thorn Oil Co.'s Burford 1, 22-14-14, sd 3020 ft. Longstreet Synd.'s Ramsey 1, 33-13-16, coring 2802 ft. DeSoto Synd.'s Holmes 1, 20-13-16, drk. Williams' 1, 29-13-16, lcn.

EAST CARROLL PARISH—Palmer Corp.'s Mitchiner 1, 8-19-11e, dry abn td 2717 ft.

FRANKLIN PARISH—Davis et al's Moore, 1, 12-11-6e, sd wo 1430 ft.

GRANT PARISH—Carter & Collins' Ball Lbr. Co. 1, 29-7-1w, set 10-inch csg 140 ft. Hardtner & Tannehill, 1, 9-6-1w, drk. J. W. Moffitt et al's Ball Lbr. Co. 1, 29-7-1w, lcn.

LINCOLN PARISH—V. E. Shaw's Voss 1, 1-20-3k, dr 915 ft.

MOREHOUSE PARISH—Rainbow Oil Co.'s Louisville Cooperage 1, 33-22-8e, drk. Woodley & Collins' Harp 1, 22-22-7e, set 12-inch csg 140 ft, dr 1055 ft.

NATCHITOCHES PARISH—Robeline O. & G. Co.'s Cassady 1, 7-8-9w, dr lime and shale 2680 ft. S. D. McDaniel's Morse-Clarke Lbr. Co. 2, 23-5-6w, rig up.

OUACHITA PARISH—Ouachita Nat. Gas Corp.'s D'Arbonne B-2, 25-19-2e, 3349 ft. Phillips et al's School Fee 1, 16-16-4e, dr 3147 ft.

RAPIDES PARISH—G. E. Silbertson's Willemach 3, 13-5n-4w, sd 2250 ft. Glenmora Pet. Co.'s Fee 1, 1-2n-2w, sd 3850 ft.

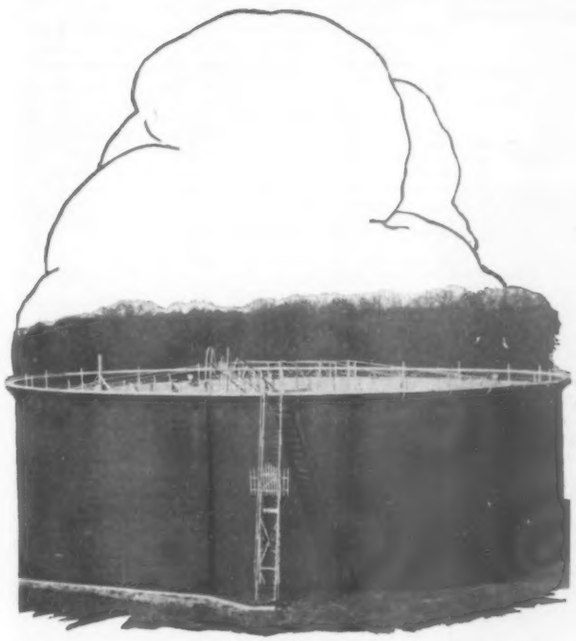
RICHLAND PARISH—Richland Operating Co.'s S. R. Humble 1, 30-16-7e, dr 127 ft. S. C. Wilson's Buie 1, 17-15-7e, cemt 10-inch csg 207 ft.

SABINE PARISH—R. L. Gay, Tr's Bowman-Hicks 2, 14-7-14, tested dry 2137 ft, dr chalk 2188 ft. Sabine Lbr. Co.'s 1, 13-7-14e, tested dry 2492 ft, dr 2605 ft. Long Bell Lbr. Co.'s 1, 26-8-14, drk. W. J. Garnier's Bowman-Hicks' 1, 16-7-12, sd 625 ft.

TENSAS PARISH—Enochs et al's Curry 1, 39-11-12e, sd 3583 ft.

UNION PARISH—Sunby et al's Security Trust So. 1, 6-23-1e, dr 650 ft. G. E. Carmatte's Tugwell 2, 21-22-1e, dr 1765 ft. Carter & Wingfield's Clark A-3, 8-23-1e, drk; Hudson 2, 7-23-1e, sd wo 2278 ft; Hudson 3, 7-23-1e, sd wo 2278 ft; Security Trust 2, 7-23-

# A big leak may make no spot



THE seriousness of an oil leak isn't always measured by the size of the spot it makes. Your line man quickly detects the spot which indicates a leak in the pipe line and his report brings prompt action to stop the leak.

But a much bigger loss is going on in every working tank at every pumping station along the line The oil is leaking out without leaving any spot because it is going out as a vapor and not as a liquid. Take, for example, a tank handling 5000 bbls. of average Mid-Continent crude per day. The annual evaporation loss from every such tank runs from 1810 to 2310 bbls. per year.

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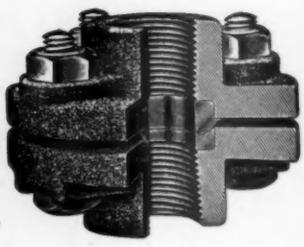

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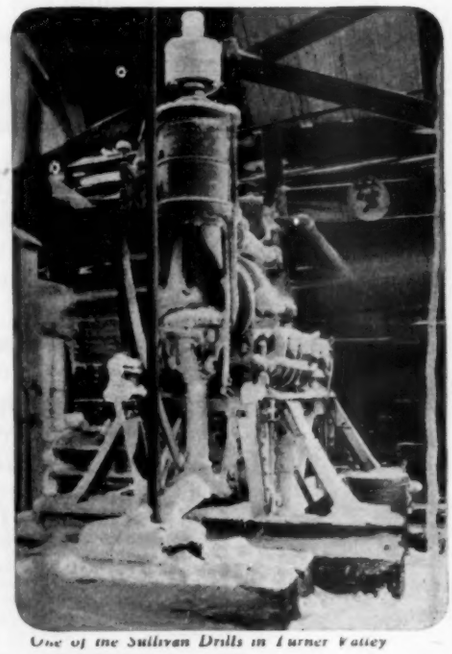

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419 Peoples Gas Building, Chicago


le, lcn. McDonald's Union Sawmill 2, 18-23-1e, sd 1500 ft.

WEBSTER PARISH—P. Hudson's Slack 1, 1-22-11, lcn. Nemour's Corp.'s Munn 1, 1-22-10, lcn. J. W. Clark, Tr's Mayfield 2, 20-23-9, cemt 6⅝-inch csg 2760 ft. Magnolia Pet. Co.'s Atkins 1, 4-22-9, lcn; H. H. Branton 3, 6-23-9, 3½ mil ft gas, td 2688 ft; Denman 1, 1-22-11, cored oil sand 2710-19 ft. Harry Morris' Lewis 1, 15-23-9, sd wo 2902 ft. John F. Woodman's Boyd 1, 3-22-11, drk.

## EAST TEXAS

BOGGY CREEK DISTRICT—Humble's Neches River 1, dr 2650 ft, sticky shale; Lizzie Smith 3, preparing to bail, td 3742 ft; T. H. Jones B-1, waiting on cement to set, 3506 ft depth; J. Gouger 1, dr 1639 ft hard rock; A. Purvey 1, ru; Earl & Ragsdale 4, dr 3070 ft sticky shale; Elliott & Clark B1, rigging up.

BOWIE COUNTY—Hooks O. & G. Co.'s Rosenberg 1, King sur, temp abn, td 3086 ft.

CAMP COUNTY—Rogers et al's Enfelt 1, Montgomery sur, sd 1920 ft (corrected).

CASS COUNTY—Davis & Pigg's Ed Lambert 1, Lambert sur, sd wo 1952 ft.

MARION COUNTY—Trimount Pet. Co.'s Mebane-Stiles A-1, Gupton sur, dr 1490 ft.

RED RIVER COUNTY—D. M. Buffington's Hoosier 1, Hughart sur, dr 1550 ft. Shad Harper's Garland 1, Jos. Wagley sur, sd wo 1682 ft. Johnson Pet Co.'s Randolph 2, Dean sur, sd wo 1440 ft.

SHELBY COUNTY—Chapparral Oil Co.'s Holt 2, Matthew Moore sur, sd wo 3004 ft. Gulf Ref. Co.'s Caraway 1, Patterson sur, cmtd 9-inch csg 3096 ft.

## TEXAS GULF COAST

AUSTIN COUNTY—Humble's R. Dietrich 2, Raccoon Bend, dr 1305 ft sand; Hardy 3, Raccoon Bend, ru; Snell 1 and Washington B-1, Raccoon Bend, lcn; A. Grawunder C-1, Raccoon Bend, taking down rig, prep to pump; Sherrill 1, Raccoon Bend, dr 2267 ft shale; E. Grawunder D-1, Raccoon Bend, set cas at 176 ft; Urban 2, Raccoon Bend, waiting on rig; Urban 3, Raccoon Bend, dr 2098 ft shale and sand; Roy Thompson 3, Raccoon Bend, dr 426 ft hard sand; J. W. Wilson 1, Raccoon Bend, dr 2468 ft shale; E. Kearns 2, Raccoon Bend, dr 2473 ft lime and shale; E. B. Wilson 3, Raccoon Bend, dr 894 ft shale; E. Ueckert 1, Raccoon Bend, completed at 1001 ft for 5,000,000 ft dry gas; Sanders 2, Raccoon Bend, ru.

BRAZORIA COUNTY—Meyer et al's Davidson 2, Clemens Dome, bailing at 942 ft. Shell Pet. Corp.'s Allen 5, Allen Dome, dr 5035 ft in rock salt; Reese 3, Allen Dome, dr 4728 ft shale and lime. Humphreys Corp.'s Bryan 1, Bryan Heights, dr 1660 ft rock. Empire G. & F. Co.'s Brock 2, Stratton Ridge, dr 3596 ft cap rock.

CALHOUN COUNTY — Barker & Thompson's Thomas 1, 9 mi w Pt. Lavaca, cleaning out, depth 2390 ft.

CHAMBERS COUNTY—Pure Oil Co.'s Mayes 1, Lost Lake, dr 1760 gbo; Lost Lake 2, Lost Lake, dr 3940 ft hard sand, slight show of oil. Gulf's Wilborn 1, Hankamer, dr 4753 ft shale. Mills Bennett Prod. Co.'s Smith 2, Barbers Hill, e side, drk; Kirby 2, Barbers Hill, e side, dr 6010 ft water sand; E. W. Barber 1, Barbers Hill, dr 1400 ft gbo. Mills Bennett-Republic Prod. Co.'s Means 1, Barbers Hill, e side, dr 4165 ft lime rock. Humphreys Corp.'s Barber 1, Barbers Hill, e side, will set screen and liner 5194 ft; Kirby B-6, Barbers Hill, e side, cutting liner to test sand at 5376-5416 ft. Mike Kouri's Shaw 1, Barbers Hill, e side, set cas at 1918 ft. Joe Bashara's Tarbutton 1, Barbers Hill, e side, dr 4823 ft sand. Sun Oil Co.'s Chambers County 1, dr 2514 ft gbo. Gulf's Fisher Fee 1, Barbers Hill, s side, dr 2900 ft gbo. Yount-Lee Oil Co.'s Chambers Co. Agricul. Co. 2, Barbers Hill, sw side, dr 3415 rock; Chambers County 3, Barbers Hill, sw side, dr 1724 ft sand rock.

COLORADO COUNTY—Rich Oil Corp.'s Brun 1, 3 mi ne Columbus, sd 1215 ft. The Texas Co.'s Kveton 1, Cat Springs, dr 1347 ft gbo. Shell Pet. Corp.'s Neundorff 1, 1 mi ne Bernado, dr 350 ft shale. Humble's Herder 1, Altair, dr 760 ft gbo. Merrett et al's Zverck 1, 2 mi e Ellinger, sd 320 ft.

FAYETTE COUNTY—Phalen et al's Cervanca 1, 6 mi s La Grange, dr 3480 ft shale. Moore et al's Kerr 1, Muldoon, sd 2078 ft.

# SPECIFICATIONS for

| LABORATORY ANALYSIS | | WHAT IT MEANS TO YOUR MOTOR |
|---|---|---|
| Initial Boiling Point | 110 Maximum | Easy starting |
| % distilled at 221° Fahr.<br>% distilled at 284° Fahr.<br>% recovery | 25 Minimum<br>52 Minimum<br>97 | More power, long burning stroke |
| End Point | 400 | Complete vaporization and therefore complete combustion |
| Doctor Test | O K | Clean odor |
| Corrosion Test | O K | No choking of gasoline line |
| Color | Plus 25 | Clean, highly refined |
| Sulphur | 1/10 of one per cent Max. | No pitting of valves |
| Gum Test | O K | No resinous precipitate to cause clogging of carburetor jets or sticking of valves |

YOU may not be interested in the technical description or laboratory analysis of Humble Flashlike Gasoline, but every one who drives a car is interested in how the product acts in the motor.

The above specifications of Humble Flashlike Gasoline show the laboratory analysis and its explanation in every-day terms. Every one agrees that easy starting is much to be desired; also, to get your money's worth from the gasoline you buy, it must burn completely. Humble Flashlike Gasoline—with its lightest fractions vaporizing at 110° Fahr. maximum, evenly proportioned up to an "end point" of 400° Fahr. (which is the temperature range at which the average motor operates most efficiently as well as most economically) insures complete vaporization and, therefore, complete burning and full power.

Humble Flashlike Gasoline must pass a very rigid corrosion test. Corrosion, you know, often causes choked gasoline lines. Humble Flashlike Gasoline is clean, highly refined, and has no offensive odor. Its sulphur test must not show more than one-tenth of one percent, thus safeguarding the valves in your motor from danger of pitting. And a most rigid gum test insures that there is no resinous precipitate in Humble Flashlike Gasoline to clog the carburetor jets or to cause sticky valves.

It will pay you to study the above specifications. Make them the basis on which you buy your gasoline.

HUMBLE OIL & REFINING COMPANY
HOUSTON, TEXAS

HUMBLE OILS
HUMBLE GASOLINE

National Oil Co.'s Melcher 1, Plum, dr 1860 ft lime.

FORT BEND COUNTY—Sun Oil Co.'s E. C. Farmer 4, Boling, bailing, 3895 ft; H. R. Farmer 4, Boling, lcn; Rodgers 2, Boling, prep to test oil sand at 4040 ft. The Texas Co.'s Dippel B-1, Boling, dr 3500 ft hard sand; Dippel A-1, Boling, dr 3709 ft shale.; Pleasants 1, Boling, dr 2807 ft sand and boulders; E. C. Farmer 2, Boling, dr 2470 ft sand and shale; Wheat 4, Big Creek, sdtr 1775 ft. Gulf's Moore 18, Moore's Field, dr 2990 ft sand and li me;Wolf 14, Long Point, set cas at 580 ft. Boling Dome Oil Corp.'s Armstrong 1, Boling, dr 4260 ft shale and gbo. Humble's Brazos Farm 2, Sugarland, dr 2515 ft gbo and lime; Brazos Farm 3, Sugarland, dr 2517 ft rock; Brazos Farm Farm 4, Sugarland, dr 559 ft sand and shale; Brazos Farm 5, Sugarland, ru; Sugarland Industries 5, Sugarland, dr 3122 ft sand and boulders; Sugarland Industries 6, Sugarland, ru; Nelson 2, Sugarland, ru; Camp 2, Sugarland, dr 3502 ft sand; Bankers Mtge. 1, Sugarland, waiting on cement to set, 852 ft. Gulf Prod. Co.'s Deathridge 1, Sugarland, lcn; Sugarland Industries 1, Sugarland, lcn. South Tex. Exploration Co.'s Hartfield 1, Needville, dr 5735 ft sticky shale.

GALVESTON COUNTY—Long et al's Irvin & Bishop 1, 2 mi s Dickinson, sd 4322 ft. Republic Prod. Co.'s Lobit 1, 1 mi nw Dickinson, dr 4254 ft shale.

GOLIAD COUNTY—Booth & McCarson's Murry 1, B 11, Rge 3, dr 1230 ft gbo. Alexander et al's Frame 1, 8 mi n Goliad, lime at 716 ft.

HARDIN COUNTY—Guedry Drlg Co.'s Guedry 1, 3 mi s Batson, drk.

HARRIS COUNTY—Torsen et al's Stewart 1, 4mi sw Genoa, sd 691 ft. Baldwin & Neyland's Kitzman 1, 2 mi n Cypress, dr 3500 ft hard shale. Hunt et al's Lobit 1, 4 mi n Goose Creek, sd 2145 ft. Humble's Simms-Smith 75, Goose Creek, r 2046 ft; Warren 5, Hockley, dr 2696 ft; Minnetex 1, Mykawa, dr 5605 ft sandy shale. Paxton et al's Brubacker 1, 1 mi ne Clodine, sd 1125 ft. Paxton & Pundt's E. R. Brown 1, lcn. South Tex. Pet. Co.'s Hicks-Higbee 1, near Almeda, dr 4030 ft gbo and lime; Morris 3, se part of Humble field, dr 3907 ft shale. Little York Oil Co.'s Davis 1, Little York, dr 750 ft gbo. The Texas Co.'s House 22, Humble, prep to drill plug at 4203 ft; Stevenson 39, Humble, d r2693 ft gbo and lime. Brains et al's Lentze 1, 4 mi s Tom Ball, sd 1120 ft.

JACKSON COUNTY—The Texas Co.'s Moore 1, Edna, dr 3322 ft sand. Wright Bros'. Drushell 8, Edna, drk; Classen 2, Edna, sd 3945 ft.

JEFFERSON COUNTY—Deep Test Oil Corp.'s Faith McFaddin 1, 1¼ mi e of Spindle Top Production, in sand at 3475 ft. J. W. Farhar et al's Rohwedder 1, 5 mi ne Beaumont, dr 2460 ft water sand. Beaumont Oil Co.'s Tyrrell 1, 2 mi w Brooks, drk. Westbury Synd.'s West 1, 1 mi ne Westbury, fsh 2740 ft. River Oil Co.'s Ship Channel Ld. Co. 1, 2 mi se Beaumont, dr 1400 ft gbo. Bleakie Oil Co.'s Tollivar 1, 2½ mi nw Voth, pull ng screen after testing fresh water at 1560 ft. The Texas Co.'s Pipkin & Davis No. 1, Big Hill, fsh 4975 ft. Gulf's Thomas 11, Fannett, ru; Brodages A-7, Fannett, ru. Yount-Lee Oil Co.'s Nona Mills 1, 5 mi s Beaumont, dr 2540 ft gbo. Shell Pet. Corp.'s Heisig 1, 2 mi n Hampshire, drk.

LAVACA COUNTY—The Texas Co.'s Russeck 1, 6 mi s Ezell, dr 3299 ft lime, shale.

LIBERTY COUNTY—Barlow et al's Hinchdliff 1, 2½ mi ne Cleveland, sd 2215 ft. Kouri et al's Campbell 1, 6 mi s Cleveland, sd 2000 ft. Big Dome Interests' Finley 2, 3 mi nw Hardin, drk. The Texas Co.'s Davis 2, Davis Hill, dr 2509 ft gbo and lime. Humble's Sterling 4, Moss Bluff, ru. Sun Oil Co.'s Kovlelka 1, N. Dayton, dr 4660 ft cap rock. Union Co.'s Esperson 2, 2 mi s Sheeks, set cas to test sand at 3464 ft. Tan Bay Oil Co.'s Christian 1, 10 mi n Hardin, sd 1115 ft.

MATAGORDA COUNTY—Crossland et al's Hawkins 1, Shepherds Mott, dr 3610 ft sand rock. Rycade Oil Corp.'s and Humble's Kuntze A-6, Markham, dr 592 ft sand. Dr. P. S. Griffith's Culver 1, e Citrus Grove, sd 3215 ft; Baer 1, 1½ mi n Gulf Hill, dr 1920 ft sand and lime. West Prod. Co.'s Meyers 1, Markham 1, spudded.

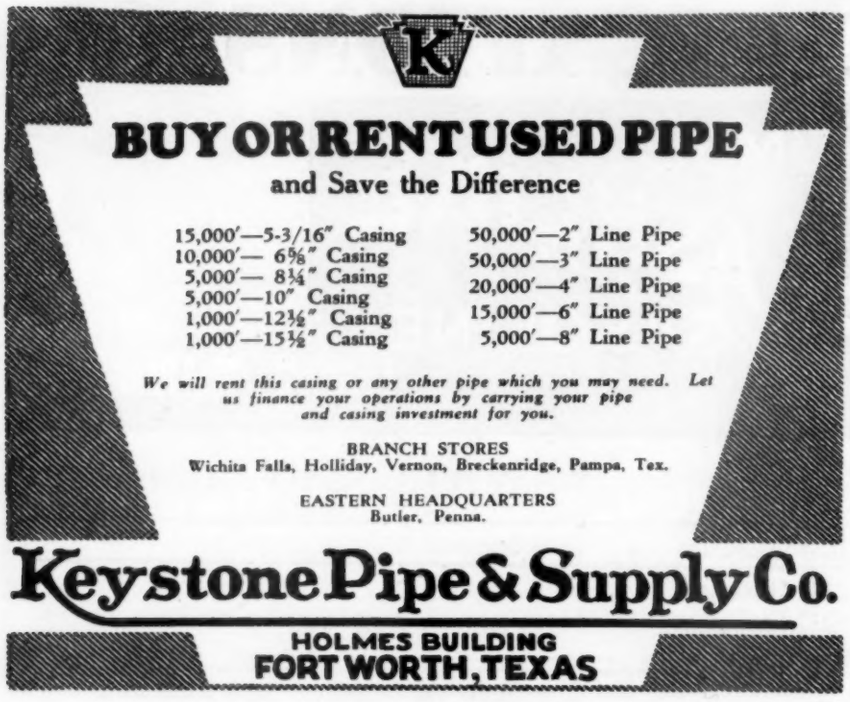
ORANGE COUNTY—Veteran Oil Co.'s Reed 1, 2 mi se Orange field, sd 2072 ft. The Texas Co.'s Kuhn 1, 4 mi e Spindle Top, dr 778 ft sand.

REFUGIO COUNTY—Blanco Oil Co.'s St. John 1, 3 mi nw Refugio, sd 2380 ft Davidson Horn's Howard 1, 3 mi sw Refugio, dr 2945 ft lime. Magnolia's Glenwinckle 1, 1 mi n Refugio field, dr 3470 ft gbo.

VICTORIA COUNTY—Humble's Welder 3-A, 1½ mi ne Nursery, dr 270 ft gbo.

WALLER COUNTY—Dixie O. & G. Co.'s Brazos River State 1, San Felipe, sd 500 ft. The Texas Co.'s Young 1, 3 mi e Raccoon Bend, dr 108 ft clay.

WASHINGTON COUNTY—Sun Oil Co.'s J. Grote 2, Clay Creek, temp. abn 1325 ft.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5,000'— 8¼" Casing
5,000'—10" Casing
1,000'—12½" Casing
1,000'—15½" Casing
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15,000'—6" Line Pipe
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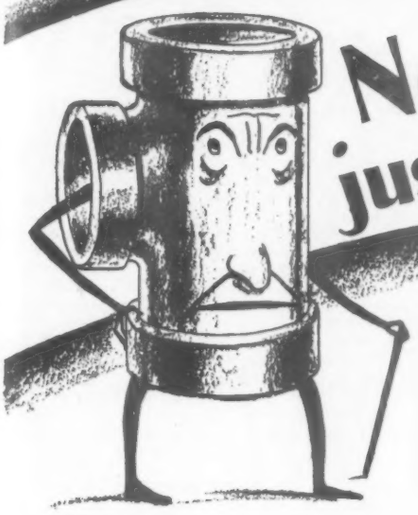

# Not Hurt---just terribly disappointed

**JOHN (*"Rusty"*) TEE, former national champion wrench baffler, named by some experts as the stubbornest single piece of pipe of all time, protests against the rough treatment he received at the hands of a Trimo pipe wrench:**

**"No, I'm not hurt," he admitted, "not even scratched; just terribly disappointed. I would still be holding the title today if they had not used an Improved and Mightier Trimo on me. No pipe can stand that. Ordinary pipe wrenches could never budge me. I consider it was unsportsmanlike to use a Trimo."**

**Let's not be sentimental, fellows, about pipe work. When pipes put up a fight, let Improved and Mightier Trimo give them the works.**

***Hardware and Supply Dealers Everywhere Sell***

# TRIMO

**TRIMONT MFG. CO., INC.**
**ROXBURY (BOSTON), MASS.**

# IMPROVED *and* MIGHTIER

Caraway 1, Clay Creek, coring at 900 ft; Einman 1, Clay Creek, abn at 2710 ft; C. Einman 2, Clay Creek, waiting on cement to set on surf cas; C. F. Grote 4, Clay Creek, lcn; C. F. Grote 6, Clay Creek, lcn. Davis et al's Seward 1, ½ mi n Independence, sd 1305 ft. W. D. Anderson's Rubenstein 1, 4 mi se Gay Hill, drk.

WHARTON COUNTY—Hearte Oil Co.'s Brown 1, 3 mi s El Campo, fsh 2095 ft.

## SOUTHWEST TEXAS

| | | |
|---|---|---|
| Caldwell COUNTY— | | |
| Speerwell et al, Mayton 1, 4 mi e Luling | * | 3035 |
| Gulf, Groffe, 1, Branyon District | * | 2402 |
| GUADALUPE COUNTY— | | |
| Shell, Grein 1, 4 mi se Seguin | * | 2238 |

BASTROP COUNTY—Gypsy Prod. Co.'s Lottmann 1, e Bastrop, depth 2145 ft. Livingston et al's McCall 1, wo 1 mi s Bastrop, sd 1010 ft. Owens et al's White 1, 2 mi w Cedar Creek, fsh 2085 ft; Goodman 1, 1½ mi from Cedar Creek, sd 382 ft. Sun Oil Co.'s Barrett 1, ½ mi s Cedar Creek, spudded.

CALDWELL COUNTY—Shell's Wilhms 1, Jolly district, temp. abn lcn. Anderson et al's J. P. Horner 1, sd 850 ft. Alexander et al's New 1, 4 mi ne Luling, Edwards lime showing oil at 2747 ft. Speerwell et al's Mayton 1, 4 mi e Luling, abn at 3035 ft. Gulf's Groffe 1, Branyon district, abn at 2402 ft. Alexander-Smith's Cardwell 1, 4 mi n Lockhart, lcn; Gomillion 1, 10 mi n Lockhart, moving in; Carter 1, 2 mi se Lytton Springs, lcn. Cranfill & Reynolds' W. P. Smith 1, Lytton Springs, drk.

DUVAL COUNTY—O. Henry Oil Co.'s Henry 1, r to bottom at 1758 ft.

GONZALES COUNTY—Greene et al's Dix 1, sw part of county, 665 ft rep pumps. Flynn et al's Wilhouser 1, sw part of country, fsh 5212 ft. Cranfill & Reynolds' Webb 1, Ottine area, dr 4220 ft Georgetown. Empire G. & F. Co.'s San Marcos River State 1, Ottine area, dr 3000 ft shale. Indiana Pet. Corp.'s Karnstadt 1, Ottine area, dr 3592 ft gbo. Joe Bruner's Miller 1, 1 mi n Waelder, ru and sd.

GUADALUPE COUNTY—Christie et al's Thomas 1, near Prairie Lea, dr 1200 ft Georgetown. Sights et al's Woehler 1, 4 mi e Seguin, sd 1965 ft. Miller Bros'. Springs 1, 5 mi s Seguin, coring 2160 ft. Shell Pet. Corp.'s Grein 1, 4 mi se Seguin, abn 2238 ft lime. Trinity Drillers' Church Land 1, Kingsbury, dr 1200 ft gbo. Adams-Lyle's Lambrecht 1, 6 mi s Seguin, ru. Magnolia's Whiley 1, 6 mi e Kingsbury, drk.

JIM HOGG COUNTY—The Texas Co.'s Vela 1, sect. 582, blk 52, dr 300 ft shale and sand.

MAVERICK COUNTY—Rycade Oil Corp.'s Chittim 4, 20 mi e Eagle Pass, ru; Chittim 3, 20 mi e Eagle Pass, fsh 3140 ft; Sullivan 4, moving in. Ryan Consolidated Pet. Corp.'s Indio Co. 2, 24 mi se Eagle Pass.

NUECES COUNTY—Aqua Dulce G. & F. Co.'s Wolters 1, Aqua Dulce, spudded. R. & G. Corp.'s Ragland 1 and Perkins 1, ru. Southern Crude's Roy Clift 1, sd 412 ft.

STARR COUNTY—The Texas Co.'s V. Guerra 1, ru.

WEBB COUNTY—The Texas Co.'s Weeks & Wilder 1, sect. 683, near Carolina-Tex pool, dr 2743 ft sand.

## MOUNTAIN STATES

### COLORADO

ARCHULETA—Juanita Oil Co.'s Harvey 1, sw 4-32n-3w, stand 735 ft, bad weather

BENT—Marland Oil Co.'s Pipe Springs 1, se 27-29s-49w, sd for winter 3987 ft.

ELBERT—Progressive Oil & Land Co.'s Pease 1, sw 27-10s-60w, spdg 70 ft.

JACKSON—Producers & Refiners' State 1, ne 2-6n-81w, sd for winter 1900 ft.

JEFFERSON—Ruby Hill O. & G. Co.'s Braden 1, se 14-4s-69w, dr 955 ft.

LAS ANIMAS—Parker Club's Kinney-Coastal 1, se 4-28s-68w, hole full of water, 1356 ft. Oklahoma-Colorado O. & G. Co.'s Doherty 1, sw 32-34-60w, dr 655 ft.

LARIMER—Barrows et al., 7-11n-68w, sd 2000 ft.

LA PLATA—Royal J & R Co.'s Red Mesa 1, 27-33n-12w, sd 650 ft, bad roads.

LINCOLN—Kelley Oil Co., State 1, ne 36-14s-57w, td 1542 ft, gas showing.

MESA—Peerless Oil Co.'s Hoel 1, ne 23-8s-104, co 2058 ft, gas show. Parrish & Langston, D. & R. G. Western's 1, nw 23-1s-1w, sd 55 ft.

MORGAN—Badger Creek O. & G. Co.'s Kent 1, sw 2-50n-10, sd 800 ft.

MOFFAT—Mtn. Fuel Supply Co.'s State 1, 16-12-100, dr 3450 ft. McLaughlin et al's Wms. 1, 2-3n-91w, dr 3265 ft. McCormick et al's Sales 2, se 28-4n-92w, spd to 15 ft and sd for winter.

MONTROSE—Uncompaghre O. & G. Co.'s Colorado Title & Trust Co. 1, 27-50n-10w, prep to run casing, td 1477 ft.

PUEBLO—Rozella Oil Co.'s Shaw 1, nw 3-22s-63w, delayed by litigation, prep to ur, td 1190 ft.

RIO BLANCO—White Eagle O. & R. Co.'s Forsham 1, sw 9-2s-86w, sidetr lost bit, td 519 ft.

YUMA—Etnyre Synd., sw 7-2s-43, show ½M at 1475 ft.

WELD—Platte Valley Pete Corp.'s Patterson 1, sw 24-6n-61w, sd 4180 ft.

### NEW MEXICO

CHAVES—Snowden & McSweeney's Merchant 1, ne 27-15s-23e, dr 3800 ft. R. E. Neal et al's Russell 1, 21-14-25e, dr 1360 ft. Warman et al's 1, 23-13s-24e, sd. Tannehill et al's Butler 1, se 15-12s-24e, dr 730 ft. Transcontinental's Robert 1, 1-14s-28e, dr 304 ft.

DE BACA—Matador Oil Co.'s State 1, sw 6-4n-20e, straight, hole 630 ft. Pittsburg Oil Co.'s 1, ne 16-1s-27e, ready to resume, co to 4190 ft. Transcontinental's McWhorter 1, 6-35-22e, dr 3245 ft.

GUADALUPE—Hanchett Oil Co.'s 2, 14-8n-24e, dr 2000 ft.

LEA—Midwest's Capps 31, sw 3-19s-39e, rigged; Midwest's Farnsworth 19, 12-26-37e, dr 3890 ft; Midwest's Farnsworth 13C, 13-26-36e, dr 1900 ft. Marland's Lynn 1, 26-23-36, compl.

The driller's stand-by in every field. 60 reversible seats double its service at half the cost of ordinary gauges—Try three.

SMITH SEPARATOR
COMPANY
Tulsa Okla.

NEW YORK HOUSTON FORT WORTH SHREVEPORT LOS ANGELES

*Say you saw it in The OIL WEEKLY*

# SKILLED SUPERVISION GUARANTEES THE QUALITY OF GULF PRODUCTS

COASTAL AND PARAFFINE CRUDES
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NAPHTHA — GAS — OILS
WAX — PETROLEUM COKE
CYLINDER—ENGINE—CORDAGE

## GULF REFINING COMPANY

*General Sales Offices*

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Mobile (Magazine Point, Ala.)
Philadelphia (Girard Point, Pa.)
Charleston, S. C.
Savannah, Ga.
New Orleans (Gretna, La.)
Port Arthur, Texas
Galveston, Texas

*Say you saw it in The OIL WEEKLY*

50M gasser at 3955 ft; Marland's Reed 1, 22-20s-36e, dr 3710 ft; Marland's Meyers 1, 26-20s-37e, dr 3900 ft; Marland's Warren 1, 29-20s-36e, dr 3770 ft; Marland's Lockhart 1, 31-21s-36e, water at 3935 ft. Gypsy Oil Co.'s Mattern 1, 24-21s-36e, dr 1000 ft. Exploration Co.'s Record 1, 26-19s-35e, td 4556 ft. Morton et al's State 1, ne 32-11s-38e, dr 1560 ft. Texas' Lynch 1, se 34-20-34, dr 2065 ft; Texas' Sheppard 1, ne 6-26s-27e, spray oil 3230 ft, tools lost; Texas' Humphreys 1, nw 18-20s-32e, location; Texas' Moberly 1, se 17-26s-37e, fsg 3540 ft. Curtis Dr. Co.'s Nixon 1, 22-18s-34e, sd 1150 ft. Cranfill & Reynolds' Wilson 1, ne 23-25s-36e, dr 310 ft. Skelly Oil Co.'s Joiner 1, se 26-25s-36e, wtg for pipeline connections. Maljamar O. & G. Corp.'s Pearsall 2, 30-17s-32e, abd 4339 ft. Empire Gas & Fuel Co.'s State 1A, nw 12-21s-34e, dr 4015 ft. Texas Pacific Coal & Oil's State 1, sw 22-23s-35e, dr 3120 ft. Prairie O. & G. Co.'s Slattery 1, ne 22-22s-34e, location. Henderson et al's McDonald 1, se 18-20s-34e, fsg 1515 ft. Vacuum Oili Co.'s 1, 14-17-34, dr water well. Bordages et al's Hughes 1, 27-19s-38e, stand 4040 ft. Pueblo Oil Co.'s Scott 1, se 29-25s-37e, prep to spud.

McKINLEY—J. W. Halsell's Santa Fe 1, 17-18n-9w, td 1032 ft.

ROOSEVELT—J. T. Keegan et al's Pepper 1, 6-1s-36e, ready to spud. Smith & Sloan's Lovern 1, se 4-3s-35, ready to spud.

SAN JUAN—Continental Oil Co.'s Munoz 17, 2-29-19, dr 6504 ft. Dorothy Oil Co., 29-30-9, sd 712 ft. Huerfano Oil Co.'s Waltbank 1, 25-29-11, td 800 ft. San Juan Pete Co.'s 1, 9-29-13, sd 2950 ft. Kirtland Dr. Co.'s Hunt 1, 20-29-15, td 450 ft. Kutz Canon O. & G. Co.'s Day 1, 29-28-11, dr 710 ft. Blackrock Oil Co.'s 1, sw 11-25s-13w, sd temp 1550 ft. Iowa Oil Synd.'s Viles 2, 28-29-11, recem at 830 ft. Angel Peaks Oil Co.'s Kutz Canon 1, 11-28n-11w, sd 2000 ft. Great Mesa Oil Corp.'s Roderick 1, sw 11-22n-14w, sd 215 ft. Milwaukee-N. M. Synd.'s Beardsley 1, 30-28n-11w, prep to resume, 1100 ft. Childerd D. & P. Co.'s Westwater 2, nw 24-31-16w, fsg liner at 2100 ft.

SAN MIGUEL—E. Adams et al's Deason 1, 14-15n-16e, sd 1735 ft. Benedict-Wilson's 1, ne 25-17n-16e, sd 800 ft.

SOCORRO—Arnold et al's 2, ne 13-6s-1w, run 6⅝-inch at 1400 ft.

TORRANCE—Bluhall O. & G. Co., 20-6n-10e, sd 1735 ft. Hall et al's Pinos Wells 1, sw 25-3n-13e, stand 400 ft. Sinnock et al's Kutchin 1, ne 13-7n-7e, spd to 100 ft.

VALENCIA—Rio Puerco Oil Co.'s N. M.-Arizona Land Co. 2, nw 13-6n-2w, wait pipe 3145 ft. Acme Oil Co.'s N. M.-Arizona Land Co. 1, 26-6n-3w, ur 6⅝-inch, td 3650 ft.

## WYOMING

BIG HORN—P. & R.'s 3, 24-56-98, sd 2709 ft. Prairie O. & G. Co.'s Chicote 1, 35-56n-95w, sd 2580 ft. P. & R.'s South Frannie 1, 7-57-97, prep to run pipe at 1950 ft. J. E. Scanlon et al's 1, 19-51n-9w, try form so 2600 ft

CARBON—P. & R., 2, 2-19-88, sd 4003 ft.

FREMONT—P. & R.'s Muskrat 2, nw 1-33n-92w, location. Gates & Holman, 6-33-94, dr 500 ft. Kenney-Coastal's 1, 22-3n-1w,dr 800 ft.

HOT SPRINGS—Texas Prod. Co.'s sw 23-45n-100w, dr 1225 ft.

LINCOLN—Midwest Refining Co.'s Waterfall 1, 35-22-115, td 2520 ft, storming.

PARK—California Exploration Co.'s and P. & R.'s Pitchford 1, 12-48n-102w, cem 20-inch at 225 ft. Midwest's Rosenburg 36, 25-58-98, land 12½-inch at 1108 ft; Midwest's Kirk 1, se 23-58-98w, co 1470 ft. Cody Pete Co.'s 1, ne 4-51n-102w, dr depth unknown. Oregon-Wyoming Oil Co., 30-52n-101w, set 6⅝-inch at 1030 ft. Ohio Oil Co.'s Pulley 1, 27-53-101, try to so water 4780 ft.

SWEETWATER—Mtn. Fuel Supply Co.'s Tucker 1, 18-13-99, sd 2480 ft. Ohio Oil Co.'s Humphreys 1, 2-12-101, dr bel 2410 ft.

SUBLETTE—California Co.'s Wyss 7, 12-32n-115w, dr 1479 ft. California Co.'s Buchell 1, 11-29-115, sd 2503 ft, bad storm.

UNITA—California Co.'s U. P. 1, 7-17-118w, dr 2750 ft.

## WEST TEXAS

### Completions

FISHER COUNTY—
Hucony Gas Co., Marberry 1 .... * 3230

TOM GREEN COUNTY—
McLaughlin & Ridge, Holder 1... * 3004

HOWARD COUNTY—
Phillips Pet. Co., Thomas 1 ..... * 4050

PECOS COUNTY—
World Oil Co., Kloh 1 ..... * 3105

PRESIDIO COUNTY—
Brite Prod. Co., L. C. Brite 1.... * 5156

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ANDREWS COUNTY — Deep Rock Oil Co.'s Hostetter 1, elev 3224 ft, top salt 1890 ft, co after set 8-inch cas 2785 ft.

BORDEN COUNTY—Gibson-Johnson et al's Higginbotham 1, rig. Greene O. & R. Co.'s Slaughter 1, dr hfw 565 ft. C. E. Hyde et al's H. D. Beal 1, rig. Teas & Wheeler's Long 1, rig.

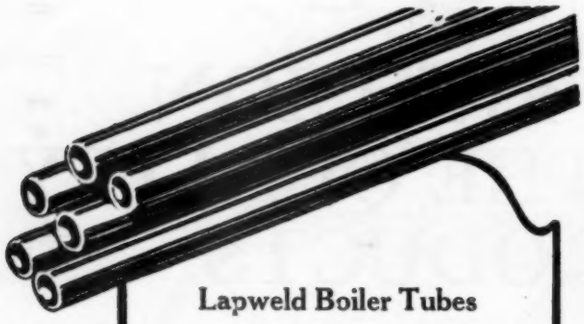
BREWSTER COUNTY—Ed. W. Bateman & Co.'s Nevill 1, elev 3950 ft, show gas with trace oil 1926 ft. Brewster Oil Co.'s Fee 1, sd 470 ft. J. P. Johnson & Bert Weekly's Jackson-Harmon 1, machine.

COKE COUNTY—Cates & Dennis' J. R. Mims 1, sd 1585 ft; Mims 2, spudded and sd. Mid-Kansas O&G Co.'s Lackey 1, set cas 3090 ft. Lipan Oil Co.'s Rawlings 1, elev 1952 ft, sd 2900 ft.

CONCHO COUNTY—J. L. Duffey-Clark-McGee's Lovelace-Lockhart 1, sd 660 ft. J. L. Duffey & Loofburrow's Hill 1, sd 1800 ft. Lloyd Jones et al's 1, sd 660 ft.

CRANE COUNTY—C. C. Duffey et al's Cowden 4, comp., pumped 110 bbls 14 hrs., td 2428 ft. Gulf Prod. Co.'s W. N. Waddell 6, top salt 1270 ft, cem 6-inch cas 3171 ft, top brown lime 3147 ft.

CROCKETT COUNTY—G. H. Anderson & P. H. Williams' University 1, elev 2610 ft, top salt 990 ft, top lime 2000 ft, sd 2610 ft. Barbara Oil Co.'s Cox 1, elev 2051 ft, top lime 1082 ft, dr 1385 ft. W. W. Donnelly & W. A. Mencrief's Massey-Todd 1-A, machine; Todd 1, (Sec. 35), spudded and sd; Todd 2, dr 875

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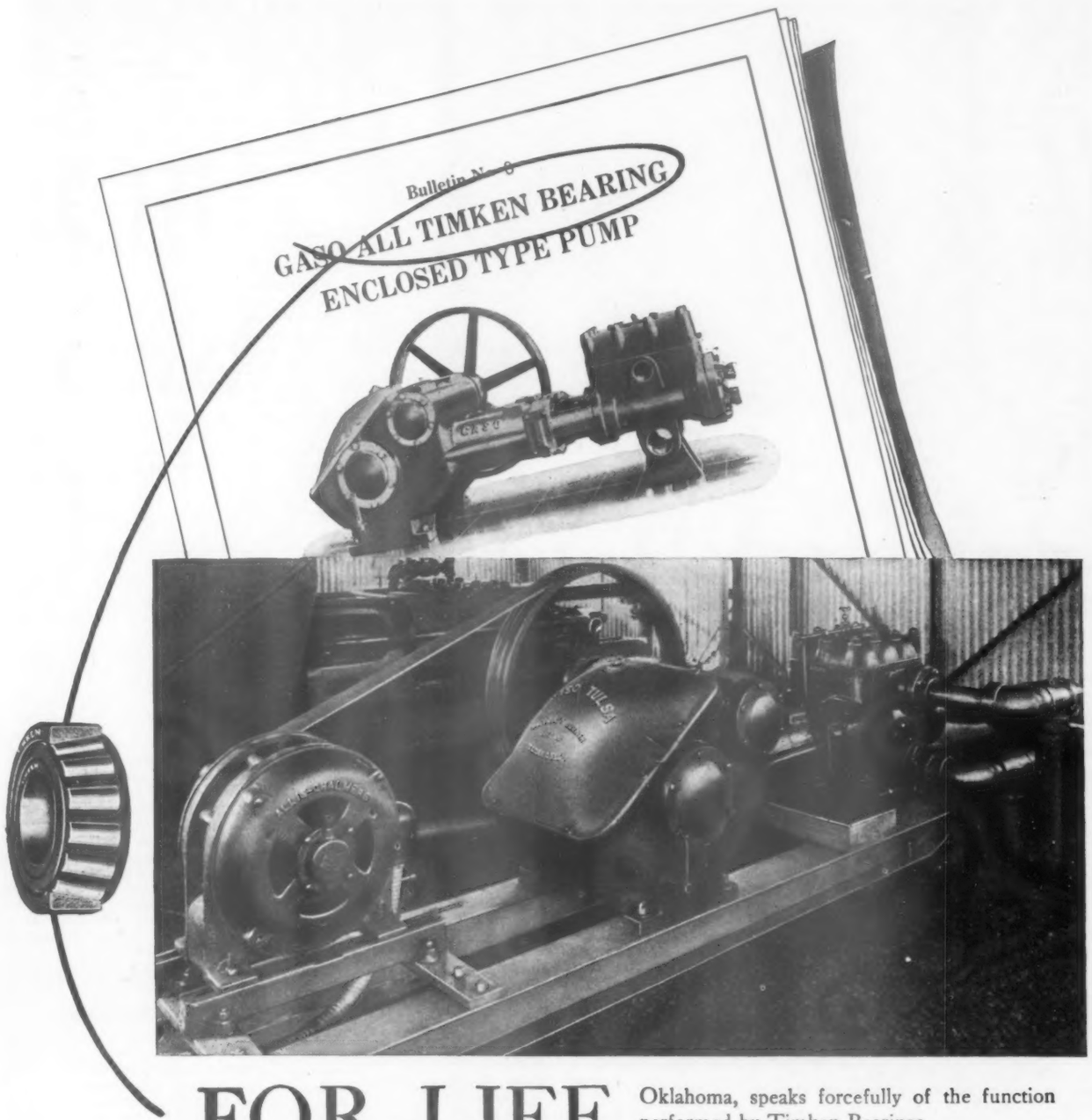


# FOR LIFE

**"The gruelling work which pumps must perform in oil industry service renders Timken Bearings a distinct economy in the long run. In no other field is the need of rugged, efficient, non-wearing bearings more pronounced."**

This statement of the maker, the Gaso Pump & Burner Manufacturing Company of Tulsa, Oklahoma, speaks forcefully of the function performed by Timken Bearings.

We need only add the reasons for long, efficient, economical service, which are full radial-thrust capacity, Timken tapered construction, Timken *POSITIVELY ALIGNED ROLLS* and Timken electric steel.

These long life features place Timken Bearings first in the oil fields and make Timken-equipped a universal guide in buying pumps, swivels, crown blocks, engines, draw works, countershafts, rotaries or any drilling and pumping equipment.

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ft. W. W. Donnelly et al's Shannon 1, (Sec. 42), spudded and sd. Lewis & Daniels' Pecos River Bed 1, sd 236 ft. Tidal Oil Co.'s Weatherred 1, elev 2329 ft, top salt 485 ft, dr 945 ft. J. D. Wheeler et al's State Fee 1, sd 410 ft.

CULBERSON COUNTY—Deep Rock Oil Co. & Grisham-Hunter Corp.'s Kloh 1, dr 215 ft. Hickey et al's Finley 1, elev 3916 ft, sd 1780 ft.

JEFF DAVIS COUNTY—Sam F. Means et al's J. Z. Means 1, ur cas 4005 ft.

FISHER COUNTY—Bickerstaff et al's McWhirter 1, elev 1932 ft, sd 2000 ft. Cranfill-Reynolds & Sun Oil Co.'s Brown 1, elev 1846 ft, dr 2965 ft; Fleming 1, elev 1803 ft, dr 2695 ft; B. F. Willingham 2, elev 1808 ft, dr 1700 ft. J. B. Dunigan et al's Henry 1, elev 1913 ft, dr 2155 ft. Culberson Bros. & Mesa Oil Co.'s Griffin 1, rig. Gilman-McMurray & French's Cleveland 1, elev 1973 ft, dr 1405 ft. Landreth Prod. Corp.'s Cooper 1, elev 1825 ft, dr 2610 ft. Bob Rainey et al's Marberry 2, elev 1929 ft, top lime 2995 ft, sd 3507 ft, Roeser-Pendleton & Amerada's Haught 1, rig. I. E. Thompson & Greenwood's Newman 1, elev 1882 ft, top lime 2810 ft, dry and abn 3300 ft. Texas Co. & Phillips Pet. Co.'s Hail 1, elev 2102 ft, dr 210 ft. White Eagle O&R Co.'s Neva Hughes 1, lcn.

GAINES COUNTY — Pure Oil Co.'s Williamson 1, elev 3197 ft, top salt 2333 ft, dr anhydrite 3605 ft.

GARZA COUNTY—Emerald Oil Co.'s J. M. Boren 4, top lime 1975 ft, dr 2455 ft.

GLASSCOCK COUNTY—Kyle & Daniels' Meek 1, elev 2792 ft, rig. Gibson-Johnson et al's Mann 1, elev 2703 ft, top salt 1170 ft, top lime 2640 ft, dr 3055 ft. McElreath & Suggett's Underwood 1, lcn. Meriwether Oil Co.'s McDowell 2, elev 2517 ft, top salt 970 ft, top lime 2445 ft, sd 2960 ft. Penn Oil Co. & Empire G&F Co.'s Hughes 1, elev 2733 ft, top lime 2335 ft, ur 2775 ft. White Eagle O&R Co.'s Dunbar 1, elev 2705 ft, top salt 1140 ft, top lime 2685 ft, fsh 3225 ft. World Oil Co.'s McDowell 1-C, elev 2530 ft, co 754 ft.

TOM GREEN COUNTY—F. P. Green et al's Fee 1, sd 1931 ft. Williams et al's Wilkey 1, set cas 370 ft.

HUDSPETH COUNTY — The California Co.'s University 1, elev 5833 ft, crooked hole 624 ft. Lockhart Bros. et al's Western State 1, spudded and sd. Western States Oil Co.'s Gardner-Mosely 1, elev 5086 ft, sd 3155 ft; Moore 1, elev 5150 ft, sd 2760 ft.

IRION COUNTY — Fuhrman Pet. Corp.'s Sugg 1, Lse. 3, (Sec. 3009), elev 2415 ft, top salt 811 ft, dr 1625 ft. Kimbrough et al's Nutt 1, elev 2299 ft, sd 1420 ft. Kimbrough & Flinchbaugh's Tankersley 1, elev 2241 ft, spudded and sd. Kingwood Oil Co.'s Sugg 1, elev 2334 ft, sd to change power, td 5875 ft. Pecos Valley Oil Co.'s Joe Stock 1, ur 890 ft. Signal Oil Co.'s Sugg 2, elev 2498 ft, top salt 760 ft, set cas 1695 ft. Sun Oil Co.'s Tankersley 1, elev 2254 ft, dr 1270 ft. Webb et al's Nutt 1, elev 2351 ft, sd 3240 ft. Western Oil Co.'s H. Horney 1, sd 1296 ft.

JONES COUNTY—Culberson Bros. et al's Anderson 1, lcn. E. P. Campbell & Co.'s Herndon 2, fsh 2408 ft. Grisham-Hunter Corp.'s A. G. Hester 1, rig. P. K. French et al's J. T. Leeson 1, lcn. McClanahan et al's Hall 1, sd with good show oil 1604-16 ft. McGinley-Sigler Co.'s Whittemore 1, dr 995 ft. McNeeley et al's Bland 1, spudded and sd. Mid-Sun Oil Corp.'s Hoehn 1, elev 1899 ft, dr by tools 2410 ft. Milt Richardson-McGinley et al's Martin 1, sd 1300 ft. Roeser-Pendleton et al's Castle 1, dr 1765 ft. Sedgwick O&G Co.'s Brown 1, lcn; Routh 1, dr 1410 ft. Tomberlin et al's Horn 1, spudded and sd. White Eagle O&R Co.'s Teague 1, lcn.

KING COUNTY — Huff Oil Co.'s M. A. Martin 1, rig.

LOVING COUNTY—Lockhart & Co.'s R. A. Cox 1, lcn; Hazell 1, elev 2705 ft, rig; H. L. Lepp 1, top salt 725 ft, dr 1410 ft; Hubbard Heirs 1, elev 2706 ft, top salt 700 ft, dr 2330 ft; Hubbard 2, rig; J. J. Wheat 1-H, rig.

LYNN COUNTY—Hart Oil Corp. & McCamey's Edwards 1, elev 3128 ft, sd, 915 ft. H. F. Miller et al's May 1, spudded and sd.

MENARD COUNTY—Carl G. Cromwell et al's Wilhelm 1, elev 2245 ft, trace oil 2375-80 ft, dr 2455 ft.

MIDLAND COUNTY—O. H. Shoup et al's Parks 1, sd 4980 ft.

MITCHELL COUNTY — Clopton & Hammon's McKenzie 1, dk. Simms Oil Co.'s Ellwood 1, elev 2237 ft, cased off gas, dr 765 ft. Teas & Wheeler's Radford 1, elev 2223 ft, top salt 667 ft, top lime 1365 ft, crooked hole 3660 ft.

NOLAN COUNTY—Bradstreet et al's Kuteman 1, rig. C. M. Root Drlg. Co.'s Lon Martin 1, lcn; Simpson 1, elev 2033 ft, dr 2765 ft. White Eagle O&R Co.'s F. E. Allyn 1, dd, dr 3040 ft.

PECOS COUNTY—Alexander-Lyles et al's Sellman 1, sd 1655 ft. Benedum-Trees et al's Corder 1-A, elev 2713 ft, top lime 1840 ft, sd 3435 ft. M. H. Black et al's Pecos 1, lcn. Buell-Hagan et al's University 1-B, lcn. K. A. Crowley et al's R. G. Heiner 1-A, skid rig, td 200 ft. Doran & McGee's Pecos 1, lcn. Cowboy Evans et al's Pecos 1, lcn. Spot Geyer & Earl's Frates' B. F. Smith 1, lcn. J. W. Grant et al's Turney 1, elev 2592 ft, top lime 1015 ft, dr 4325 ft. Grayburg Oil Co.'s University 1, elev 2725 ft, set 10-inch cas 455 ft. Imperial O&G Co.'s Pecos 1, lcn. Marland Prod. Co.'s Blakeslee 1, elev 2448 ft, dr hfw 1336-40 ft. McCarty Oil Co.'s A. A. Gray 1, elev 2524 ft, sd to re-set cas and flowing small heads 33.4 degree oil at 1162-70 ft. Mauch & Krogen's Holmes 1, elev 2325 ft, top salt 535 ft, sd 1010 ft. J. D. O'Mara et al's L. L. Byrne 1, lcn. Pecos Valley Oil Co.'s Pecos Fee 2, elev 2499 ft, top salt 1107 ft, testing oil flow at 1617-25 ft. Perren et al's H. J. Eaton 1, machine. Schumaker et al's Williams 1, elev 2388 ft, sd 700 ft. Southern Crude Oil Pur. Co.'s Scarbauer 1, elev 3680 ft, dr 3700 ft. Stein & McGee's Peterson 1, lcn. Talbot & Dittman et al's Unsicker 1, elev 2471 ft, dr 1510 ft. Transcontinental's University 1, elev 2552 ft, top lime 1035 and 3315 ft, fsh bit 4199 ft. Trees Oil Co. & Empire G&F Co.'s J. C. Trees 1, spudded and sd.

PRESIDIO COUNTY—C. E. Miller-Delmar & Phillips Pet. Co.'s Tootle 1, dr 2315 ft.

REAGAN COUNTY—The California Co.'s University 5, elev 2879 ft, top salt 1280 ft, dr 2885 ft. R. V. Oberholtzer et al's Talley 1, rig.

REEVES COUNTY—E. W. Brooks et al's Eddins 1, elev 2719 ft, top salt 1622 ft, top lime 3216 ft, sd 5658 ft. Exploration Co.'s Kinney 1, elev 2847 ft, sd 2900 ft. Penn Oil Co.'s Bowles 1, elev 2783 ft, top salt 1725 ft, dr 3505 ft. Southern Crude Oil Pur. Co. & Dixie Oil Co.'s Kloh 1, sd 240 ft. Lee O. White et al's Kloh 1, elev 3244 ft, spudded and sd.

RUNNELS COUNTY—G. W. Boyce et al's Lange 1, sd 1350 ft. Independent O&G Co.'s Will Rollwitz 1, spudding. Marland Prod. Co.'s A. Herring 1, set 10-inch cas 1515 ft. Gene Mays et al's Currie 1, spudded and sd. Ira Nourse & Elvin Tilton et al's Cramer 1, elev 1775 ft, ur 2625 ft. Union Oil Co.'s Allen 1, cem crevice 2997 ft.

SCHLEICHER COUNTY — Ft. McKavitt Oil Co.'s Tisdale 1, elev 2155 ft, sd 1535 ft. Interstate Explo. Co.'s Whitten 1, sd 515 ft.

SCURRY COUNTY—Joe Maxwell & Lou Ladd's Koonsman 1, lcn. R. B. Pender-Dieckman et al's Davis 1, elev 2208 ft, top salt 445 ft, dr 1970 ft.

STERLING COUNTY — Foster & Gracey Oil Co.'s Foster 1, elev 2260 ft, dr 2185 ft. Miller Bros. et al's Foster 1, dr 305 ft.

SUTTON COUNTY — Phillips Pet. Co.'s Holman 1, elev 2247 ft, top lime 2315 ft, fsh 5770 ft. L. G. Priest et al's Allison 1, sd 310 ft. Southern Crude & Dixie Oil Co.'s Allison 1, dr 5206 ft.

TAYLOR COUNTY — Grisham - Hunter Corp.'s Campbell 1, dr 2255 ft. J. B. Jameson et al's Webb 1, rig. Mid-Continent Pet. Corp.'s Taylor 1, elev 1933 ft, dr 2485 ft. Thompson et al's Hammer 1, sd 1615 ft. L. H. Wentz et al's Armour 1, dr 1414 ft.

TERRELL COUNTY—Milham Corp.'s Bassett 1, elev 2270 ft, fsh 4635 ft. Keck-Pecos Oil Trust's Hamilton 1, elev 1733 ft, sd 1749 ft.

VAL VERDE COUNTY—Dyer Bros. et al's Wilson 1, elev 2115 ft, sd 2705 ft. Producers Oil Co. et al's Everett 1, sd 2115 ft. Val Vert Oil Corp.'s Bassett 1-A, elev 2069 ft, dr shale 3765 ft.

WARD COUNTY—Atlantic Oil Prod. Co. & Delmar Oil Co.'s Hayzlett 1, elev 2504 ft, top salt 715 ft, est 150 bbls., co 2473-85 ft. Barstow Oil Co.'s Monroe-Gillespie 1, spudded and sd. Gulf Prod. Co.'s G. W. O'Brien 4, dr hfw 440 ft. J-H-L Oil Co.'s S. F. Hayzlett 1, elev 2522 ft, top salt 792 ft, dr 2090 ft; Hayzlett 2, machine. Kemper & Kimberlin et al's Thompson 1, lcn. Lovelace et al's Redman 1, set cas 360 ft.

WINKLER COUNTY — Gulf Prod. Co.'s Scarborough 1, elev 2953 ft, top salt 1210 ft, show gas and 1500 ft oil in hole, dr pay 2987-3020 ft. Prairie O&G Co.'s Scarborough 1, elev 2914 ft, dr 1155 ft. Shell Pet. Corp. & Llano Oil Co.'s Scarborough 4, elev 2953 ft, top salt 1105 ft, flowing oil by heads, dr pay 2990-3119 ft; Scarborough 5, elev 2966 ft, top salt 1110 ft, dr 1440 ft. Texas-Canadian Oil Co. et al's Kloh 1, fsh tools 900 ft.

YOAKUM COUNTY—Bert Weekly et al's Knight 1, dr 565 ft.

## SOUTH LOUISIANA

ACADIA PARISH—E. F. Simms' Clement 1, Jennings, will sdtr at 2975 ft; Clement 2, Jennings, sd 3840 ft; Grace von Schuler 1, Jennings, dr 4285 ft sand after losing 600 ft of hole. Jennings Oil Co. 1, Jennings, sd 3545 ft; Cockrell 1, Jennings, sd 4330 ft; Cockrell 2, Jennings, dr 4512 ft lime and shale.

ASCENSION PARISH—Gulf's United Lands Co. 11, Sorrento dome, sdtr at 2025 ft; Belle Helene Sugar Co. 1, Darrow, sp. Triumph Oil Corp.'s J. D. Lacey et al 2, 3 mi se Sorrento, dr 1750 ft shale. Burnside Oil Co.'s Roberts 1, sd 920 ft; Robert 2, lcn. Big Dome Drlg. & Dev. Co. and J. S. Kimbrough's Rearwood 1, Sec. 82, sd 1000 ft. Baton Rouge Pet. Co.'s Liotta 1, sd 1000 ft.

CALCASIEU PARISH—Union Sulphur Co.'s Fee 736, Sulphur, dr 4925 ft sand showing oil; Fee 739, Sulphur, dr 2545 ft salt; Fee 740, Sulphur, dr 5525 ft hard sand; Fee 741, Sulphur, dr 2470 ft gbo. J. O. Davis' Mimms 1, Lake Charles, dk. J. W. Watson et al's La. Land Co. 1, Sulphur, sd 5100 ft.

CAMERON PARISH—Pure Oil Co.'s Yount-Lee 8, Sweet Lake, completed flowing 234 bbls first 12 hours, 70 per cent. oil, 28.5 corrected gravity at 4475 ft; Yount-Lee 7, Sweet Lake, prep to deepen from 4594 ft. Calcasieu Oil Co.'s Doiron 5, E. Hackberry, fsh 3665 ft; Watkins 13, E. Hackberry, dr 3990 ft after testing salt water. The Texas Co.'s Calcasieu Lake B-4, E. Hackberry, ru; Calcasieu Lake A-3, S. Calcasieu Lake, driving piling. Rycade Oil

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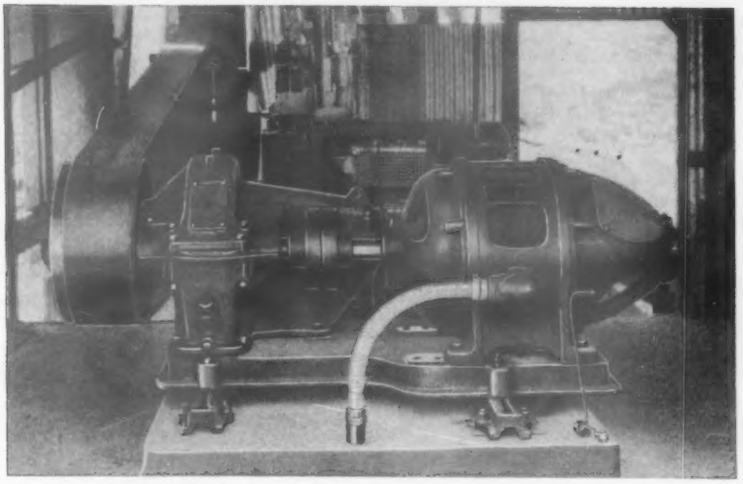

# Oil *and* Electricity *do* mix!

OUT in the oil fields--the proving ground for stamina and performance--Westinghouse equipment has repeatedly demonstrated that oil and electricity "mix". They are becoming closer associated every day, and in every phase of operation. The fact that Westinghouse equipment is designed especially for, not merely adapted to, oil field applications, easily explains its dependable operating characteristics.

Westinghouse two-speed pumping units are designed with ample horsepower. Rated at 15/35, 20/50, 25/55 and 25/65 horsepower, each with a complete factory assembled control unit, this equipment finds wide application. The control gives the right speed for maximum production, whatever may be the requirements of a producing well. The low horsepower, low-speed side is used for pumping, and the high horsepower, high-speed side for cleaning, pulling rods and tubing.

Further information on Westinghouse equipment for oil fields may be obtained through the Oil Well Supply Company, the National Supply Companies, or from any of the Westinghouse district offices.

Equipment for the Oil Industry *Includes* –

- Arc-Welders
- Babbitt and Solder
- Capacitors
- Change House Heaters
- Circuit-Breakers
- Fans
- Fuses
- Generators, A-C. and D-C.
- Gears and Speed Reducers
- Lightning Arresters
- Line Materials
- Meters and Instruments
- Motor Generators
- Motors and Control for Drilling, Pumping Air and Gas Lifts, Pipe Line Pumping, etc.
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- Substation Equipment
- Transformers
- Turbine-Generators

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**Westinghouse**

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ft. W. W. Donnelly et al's Shannon 1, (Sec. 42), spudded and sd. Lewis & Daniels' Pecos River Bed 1, sd 236 ft. Tidal Oil Co.'s Weatherred 1, elev 2329 ft, top salt 485 ft, dr 945 ft. J. D. Wheeler et al's State Fee 1, sd 410 ft.

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GAINES COUNTY — Pure Oil Co.'s Williamson 1, elev 3197 ft, top salt 2333 ft, dr anhydrite 3605 ft.

GARZA COUNTY—Emerald Oil Co.'s J. M. Boren 4, top lime 1975 ft, dr 2455 ft.

GLASSCOCK COUNTY—Kyle & Daniels' Meek 1, elev 2792 ft, rig. Gibson-Johnson et al's Mann 1, elev 2703 ft, top salt 1170 ft, top lime 2640 ft, dr 3055 ft. McElreath & Suggett's Underwood 1, lcn. Meriwether Oil Co.'s McDowell 2, elev 2517 ft, top salt 970 ft, top lime 2445 ft, sd 2960 ft. Penn Oil Co. & Empire G&F Co.'s Hughes 1, elev 2733 ft, top lime 2335 ft, ur 2775 ft. White Eagle O&R Co.'s Dunbar 1, elev 2705 ft, top salt 1140 ft, top lime 2685 ft, fsh 3225 ft. World Oil Co.'s McDowell 1-C, elev 2530 ft, co 754 ft.

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JONES COUNTY—Culberson Bros. et al's Anderson 1, lcn. E. P. Campbell & Co.'s Herndon 2, fsh 2408 ft. Grisham-Hunter Corp.'s A. G. Hester 1, rig. P. K. French et al's J. T. Leeson 1, lcn. McClanahan et al's Hall 1, sd with good show oil 1604-16 ft. McGinley-Sigler Co.'s Whittemore 1, dr 995 ft. McNeeley et al's Bland 1, spudded and sd. Mid-Sun Oil Corp.'s Hoehn 1, elev 1899 ft, dr by tools 2410 ft. Milt Richardson-McGinley et al's Martin 1, sd 1300 ft. Roeser-Pendleton et al's Castle 1, dr 1765 ft. Sedgwick O&G Co.'s Brown 1, lcn; Routh 1, dr 1410 ft. Tomberlin et al's Horn 1, spudded and sd. White Eagle O&R Co.'s Teague 1, lcn.

KING COUNTY — Huff Oil Co.'s M. A. Martin 1, rig.

LOVING COUNTY—Lockhart & Co.'s R. A. Cox 1, lcn; Hazell 1, elev 2705 ft, rig; H. L. Lepp 1, top salt 725 ft, dr 1410 ft; Hubbard Heirs 1, elev 2706 ft, top salt 700 ft, dr 2330 ft; Hubbard 2, rig; J. J. Wheat 1-H, rig.

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MITCHELL COUNTY — Clopton & Hammon's McKenzie 1, dk. Simms Oil Co.'s Ellwood 1, elev 2237 ft, cased off gas, dr 765 ft. Teas & Wheeler's Radford 1, elev 2223 ft, top salt 667 ft, top lime 1365 ft, crooked hole 3660 ft.

NOLAN COUNTY—Bradstreet et al's Kuteman 1, rig. C. M. Root Drlg. Co.'s Lon Martin 1, lcn; Simpson 1, elev 2033 ft, dr 2765 ft. White Eagle O&R Co.'s F. E. Allyn 1, dd, dr 3040 ft.

PECOS COUNTY—Alexander-Lyles et al's Sellman 1, sd 1655 ft. Benedum-Trees et al's Corder 1-A, elev 2713 ft, top lime 1840 ft, sd 3435 ft. M. H. Black et al's Pecos 1, lcn. Buell-Hagan et al's University 1-B, lcn. K. A. Crowley et al's R. G. Heiner 1-A, skid rig, td 200 ft. Doran & McGee's Pecos 1, lcn. Cowboy Evans et al's Pecos 1, lcn. Spot Geyer & Earl's Frates' B. F. Smith 1, lcn. J. W. Grant et al's Turney 1, elev 2592 ft, top lime 1015 ft, dr 4325 ft. Grayburg Oil Co.'s University 1, elev 2725 ft, set 10-inch cas 455 ft. Imperial O&G Co.'s Pecos 1, lcn. Marland Prod. Co.'s Blakeslee 1, elev 2448 ft, dr hfw 1336-40 ft. McCarty Oil Co.'s A. A. Gray 1, elev 2524 ft, sd to re-set cas and flowing small heads 33.4 degree oil at 1162-70 ft. Mauch & Krogen's Holmes 1, elev 2325 ft, top salt 535 ft, sd 1010 ft. J. D. O'Mara et al's L. L. Byrne 1, lcn. Pecos Valley Oil Co.'s Pecos Fee 2, elev 2499 ft, top salt 1107 ft, testing oil flow at 1617-25 ft. Perren et al's H. J. Eaton 1, machine. Schumaker et al's Williams 1, elev 2388 ft, sd 700 ft. Southern Crude Oil Pur. Co.'s Scarbauer 1, elev 3680 ft, dr 3700 ft. Stein & McGee's Peterson 1, lcn. Talbot & Dittman et al's Unsicker 1, elev 2471 ft, dr 1510 ft. Transcontinental's University 1, elev 2552 ft, top lime 1035 and 3315 ft, fsh bit 4199 ft. Trees Oil Co. & Empire G&F Co.'s J. C. Trees 1, spudded and sd.

PRESIDIO COUNTY—C. E. Miller-Delmar & Phillips Pet. Co.'s Tootle 1, dr 2315 ft.

REAGAN COUNTY—The California Co.'s University 5, elev 2879 ft, top salt 1280 ft, dr 2885 ft. R. V. Oberholtzer et al's Talley 1, rig.

REEVES COUNTY—E. W. Brooks et al's Eddins 1, elev 2719 ft, top salt 1622 ft, top lime 3216 ft, sd 5658 ft. Exploration Co.'s Kinney 1, elev 2847 ft, sd 2900 ft. Penn Oil Co.'s Bowles 1, elev 2783 ft, top salt 1725 ft, dr 3505 ft. Southern Crude Oil Pur. Co. & Dixie Oil Co.'s Kloh 1, sd 240 ft. Lee O. White et al's Kloh 1, elev 3244 ft, spudded and sd.

RUNNELS COUNTY—G. W. Boyce et al's Lange 1, sd 1350 ft. Independent O&G Co.'s Will Rollwitz 1, spudding. Marland Prod. Co.'s A. Herring 1, set 10-inch cas 1515 ft. Gene Mays et al's Currie 1, spudded and sd. Ira Nourse & Elvin Tilton et al's Cramer 1, elev 1775 ft, ur 2625 ft. Union Oil Co.'s Allen 1, cem crevice 2997 ft.

SCHLEICHER COUNTY — Ft. McKavitt Oil Co.'s Tisdale 1, elev 2155 ft, sd 1535 ft. Interstate Explo. Co.'s Whitten 1, sd 515 ft.

SCURRY COUNTY—Joe Maxwell & Lou Ladd's Koonsman 1, lcn. R. B. Pender-Dieckman et al's Davis 1, elev 2208 ft, top salt 445 ft, dr 1970 ft.

STERLING COUNTY — Foster & Gracey Oil Co.'s Foster 1, elev 2260 ft, dr 2185 ft. Miller Bros. et al's Foster 1, dr 305 ft.

SUTTON COUNTY — Phillips Pet. Co.'s Holman 1, elev 2247 ft, top lime 2315 ft, fsh 5770 ft. L. G. Priest et al's Allison 1, sd 310 ft. Southern Crude & Dixie Oil Co.'s Allison 1, dr 5206 ft.

TAYLOR COUNTY — Grisham - Hunter Corp.'s Campbell 1, dr 2255 ft. J. B. Jameson et al's Webb 1, rig. Mid-Continent Pet. Corp.'s Taylor 1, elev 1933 ft, dr 2485 ft. Thompson et al's Hammer 1, sd 1615 ft. L. H. Wentz et al's Armour 1, dr 1414 ft.

TERRELL COUNTY—Milham Corp.'s Bassett 1, elev 2270 ft, fsh 4635 ft. Keck-Pecos Oil Trust's Hamilton 1, elev 1733 ft, sd 1749 ft.

VAL VERDE COUNTY—Dyer Bros. et al's Wilson 1, elev 2115 ft, sd 2705 ft. Producers Oil Co. et al's Everett 1, sd 2115 ft. Val Vert Oil Corp.'s Bassett 1-A, elev 2069 ft, dr shale 3765 ft.

WARD COUNTY—Atlantic Oil Prod. Co. & Delmar Oil Co.'s Hayzlett 1, elev 2504 ft, top salt 715 ft, est 150 bbls., co 2473-85 ft. Barstow Oil Co.'s Monroe-Gillespie 1, spudded and sd. Gulf Prod. Co.'s G. W. O'Brien 4, dr hfw 440 ft. J-H-L Oil Co.'s S. F. Hayzlett 1, elev 2522 ft, top salt 792 ft, dr 2090 ft; Hayzlett 2, machine. Kemper & Kimberlin et al's Thompson 1, lcn. Lovelace et al's Redman 1, set cas 360 ft.

WINKLER COUNTY — Gulf Prod. Co.'s Scarborough 1, elev 2953 ft, top salt 1210 ft, show gas and 1500 ft oil in hole, dr pay 2987-3020 ft. Prairie O&G Co.'s Scarborough 1, elev 2914 ft, dr 1155 ft. Shell Pet. Corp. & Llano Oil Co.'s Scarborough 4, elev 2953 ft, top salt 1105 ft, flowing oil by heads, dr pay 2990-3119 ft; Scarborough 5, elev 2966 ft, top salt 1110 ft, dr 1440 ft. Texas-Canadian Oil Co. et al's Kloh 1, fsh tools 900 ft.

YOAKUM COUNTY—Bert Weekly et al's Knight 1, dr 565 ft.

## SOUTH LOUISIANA

ACADIA PARISH—E. F. Simms' Clement 1, Jennings, will sdtr at 2975 ft; Clement 2, Jennings, sd 3840 ft; Grace von Schuler 1, Jennings, dr 4285 ft sand after losing 600 ft of hole. Jennings Oil Co. 1, Jennings, sd 3545 ft; Cockrell 1, Jennings, sd 4330 ft; Cockrell 2, Jennings, dr 4512 ft lime and shale.

ASCENSION PARISH—Gulf's United Lands Co. 11, Sorrento dome, sdtr at 2025 ft; Belle Helene Sugar Co. 1, Darrow, sp. Triumph Oil Corp.'s J. D. Lacey et al 2, 3 mi se Sorrento, dr 1750 ft shale. Burnside Oil Co.'s Roberts 1, sd 920 ft; Robert 2, lcn. Big Dome Drlg. & Dev. Co. and J. S. Kimbrough's Rearwood 1, Sec. 82, sd 1000 ft. Baton Rouge Pet. Co.'s Liotta 1, sd 1000 ft.

CALCASIEU PARISH—Union Sulphur Co.'s Fee 736, Sulphur, dr 4925 ft sand showing oil; Fee 739, Sulphur, dr 2545 ft salt; Fee 740, Sulphur, dr 5525 ft hard sand; Fee 741, Sulphur, dr 2470 ft gbo. J. O. Davis' Mimms 1, Lake Charles, dk. J. W. Watson et al's La. Land Co. 1, Sulphur, sd 5100 ft.

CAMERON PARISH—Pure Oil Co.'s Yount-Lee 8, Sweet Lake, completed flowing 234 bbls first 12 hours, 70 per cent. oil, 28.5 corrected gravity at 4475 ft; Yount-Lee 7, Sweet Lake, prep to deepen from 4594 ft. Calcasieu Oil Co.'s Doiron 5, E. Hackberry, fsh 3665 ft; Watkins 13, E. Hackberry, dr 3990 ft after testing salt water. The Texas Co.'s Calcasieu Lake B-4, E. Hackberry, ru; Calcasieu Lake A-3, S. Calcasieu Lake, driving piling. Rycade Oil

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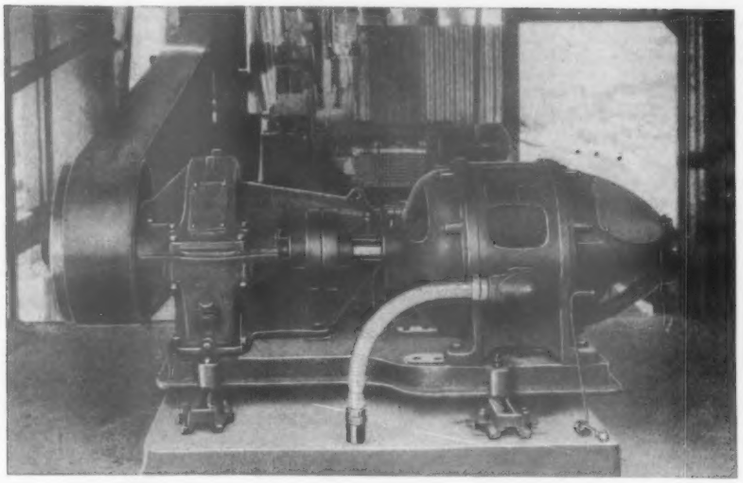

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Corp. and Humble's Grand Lake 1, Hackberry, dr 2414 ft shale; Gulf Land 2, dk. Yount-Lee Oil Co.'s Kaough 1, Hackberry, lcn; Vincent 1, Hackberry, lcn. Federal Pet. Co.'s Kaough 1, sp, dr 1560 ft gbo, dr 392 ft sand and gravel; Kaough 4, lcn; Duhon 1, Hackberry, ru; Duhon 2, Hackberry, lcn. Rex Pet. Co.'s Noble 1, Hackberry, ru. Pure's Duhon 1, Hackberry, lcn. Cameron Oil Co.'s Duhon 3, Hackberry, set cas over sand at 3078 ft. Sun Oil Co.'s Vincent 1, Hackberry, dr 1125 ft gbo; Vincent 2, Hackberry, lcn. Cherokee Oil Co.'s Duhon 1, Hackberry, dr 2020 ft gbo. Moon Oil Co.'s Sanner 2, dr 1130 ft gbo. Chas. T. Madison's Duhon 1, Hackberry, td 355 ft. Shell's Watkins 6, Black Bayou, dr 3204 ft blue sandy shale and lime; Watkins 8, Black Bayou, ru.

IBERIA PARISH—The Texas Co.-La. Land & Explo. Co.'s Vermilion Bay A-3, Vermilion Bay, sd for boiler repairs, 4275 ft. Gulf's Fannie Kling et al 3, Loreauville, dr 3605 ft lime; Moresi Co. et al 1, Loreauville, dr 2600 ft sandy lime. Jefferson Lake Oil Co.'s Lake Peigneur 1, Jefferson Island, dr 830 ft.

IBERVILLE PARISH—Shell's Wilbert 3, White Castle dome, depth 3840 ft. Standard of La.'s Wilbert 2, Bayou Blue dome, Sec. 74, through dredging canal; Wilbert 3, Bayou Blue dome, through dredging canal to lcn; Schwing 1, Bayou Blue dome, set cas over oil sand at 3648 ft; Schwing 2, Bayou Blue dome, Sec. 74-9s-10e, bldg dk; Schwing 3, Bayou Blue, lcn. Union Sulphur Co.'s Schwing 3, Bayou des Glaise dome, sd 3675 ft because of high water.

JEFFERSON DAVIS PARISH — Vacuum Oil Co.'s Earl 1, Roanoke, dr 1625 ft sand; DeVilbiss 1, Roanoke district, depth 5200 ft, washing to bottom.

LA FOURCHE PARISH—Gulf's Stark 9, Thibodaux, dr 1342 ft cap rock. Union Sulphur Co.'s Dibert-Stark-Brown 1, Thibodaux, dr 900 ft gbo; Dibert-Stark-Brown 2, Thibodaux, lcn.

PLAQUEMINE PARISH—Gulf's Morris & Rose 1, Spanish Pass, 5 mi sw Venice, ru. The Texas Co.'s Garden Island Bay 1, 15 mi se Venice, bldg dk.

POINT COUPEE PARISH—Miller et al's Kornbacker 1, sd 1925 ft. Fruen et al's La Cour 1, ru and sd.

ST. JAMES PARISH—U. S. Mineral Dev. Co.'s Reynaul Co. 1, sd 1720 ft.

ST. LANDRY PARISH—The Texas Co.'s Botany Bay Fee 1, Port Barre dome, set screen, washed, bailed, but failed to bring well back, preparing to swab, depth 3766 ft.

ST. MARTIN PARISH—Rycade's State 3, Bayou Bouillon, depth 960 ft; Bayou Bouillon Fee 6, pulling on liner, 2888 ft; Bayou Bouillon Fee 7, dk; Bayou Bouillon Fee 8, dr 2747 ft shale, tested salt water at 4080 ft; Atchafalaya Fee 5, Bayou Bouillon, dk. Ohio Oil Co.'s Martin et al 3, Hager dome, dr 4430 ft sandy shale; Burke 3, Hager dome, lcn. The Texas Co.'s St. Martin Land Co. Fee 1, Hager dome, Sec. 28-9s-7e, driving piling. Yount-Lee Oil Co.'s La. Pet Co. 4, Anse la Butte, dr 3150 ft sand.

ST. MARY PARISH—J. Dannenbaum et al's Le Blue 1, Charenton, 3015 ft.

ST. TAMMANY PARISH—Pearl Oil Corp.'s Fritsche 1, Slidell, td 2020 ft.

TANGIPAHOA PARISH—Tanil Oil Co.'s Weinberger 2, sd 4050 ft. Joan Dev. Co.'s Lake Superior Piling Co. 1, td 220 ft.

TERREBONNE PARISH — Southern Gas Co.'s Peoples Sugar Co. 1, Houma, sd 2287 ft. The Texas Co.'s Lake Barre 1, Sec. 37-21s-19e, driving piling; Lake Pelto B-1, Sec. 8-23s-18e, moving in material; Four Isle Bayou B-1, Sec. 23-21s-16e, moving in material; Timbalier Bay A-1, Sec. 19-23s-20e, driving piling; Bay Coon Road B-1, Sec. 17-22s-18e, moving in material; Dog Lake Bayou A-1, Sec. 6-22s-16e, moving in material.

## Dry Creek

Red Ridge, Mont.—Ohio Oil Company has made some progress in its fishing job on the well in Dry Creek structure, southern Montana, Section 11-7s-21e. This well is known as Northern Pacific 1, and has several hundred feet of fluid in the hole and a flow of about 11 million cubic feet of gas per day. Bailing does not lower the column of fluid, and an attempt is now being made to sidetrack the tools and drill ahead. It is said that even though this well cannot be drilled deeper, it will make a commercial producer as it stands.

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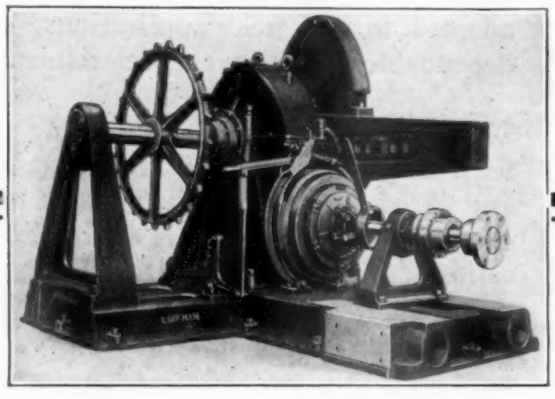
Bridgeport Machine Company has made several changes in its personnel. C. H. Williams, formerly with the Oil Well Supply Company and International Supply Company in Tulsa, is now the Tulsa district salesman. G. C. Terry is now the field salesman in the Wichita district. He formerly was with the International Supply Company. M. W. McClure has recently been employed to take charge of the Bridgeport store at Seminole. Felix T. Heavener, formerly in charge of the Seminole store, is now field salesman at Seminole. N. O. Boomer has been made field salesman out of the Maud store, and Phil Webber is the new warehouse man at Marshall, Oklahoma.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# Louisiana--Arkansas Field Notes

## New Drilling in North Louisiana-Arkansas Area Increases

SHREVEPORT, La.—Interest still remains high in McDonald Brothers' Wilson 1 in Section 25-15-18, Ouachita County, Arkansas, a connecting link between the Louann sector of the old Smackover field and the producing area in Stephens. This well has been standardized but a 24-hour gauge had not been made Saturday. However, during last week, the well one day flowed between 40 and 50 barrels of oil by heads from 2828 feet. The well had at first shown no gas pressure.

While this development was regarded optimistically Charles McDonald in Wilson 1, in the same section and but a quarter of a mile north tested salt water from 2820 to 2840 feet and is now coring at 2865 feet.

Joe Hurley's Arkansas Land & Timber 1 in Section 29-16-12, Calhoun County, Arkansas, which tested dry with a very slight oil show at 2314 and 2318 feet, has been deepened and is coring at 3007 feet, having topped the red beds at 2997 feet.

Initial production continues on a low level, only three producers being added in the Shreveport area during the week, all in Arkansas. Little Fay Oil Company added a 50-barrel pumper in Primm A-1 in Section 24-15-16, Ouachita County, at 2072 feet. Shell Petroleum Corporation plugged back to the Nacatosh at 1975 feet in Williams 1 in Section 34-15-15, Union County, in the old Smackover field and is pumping 245 barrels daily from that horizon. Ohio Oil Company brought in Nash 1, Account 3, in the northeastern part of Champagnolle, as a 60-barrel producer from 3064 feet.

### Louisiana Gets Seven Gassers

Louisiana did not record a producer but added seven gas wells, five in the Monroe field in Ouachita and Morehouse Parishes, and one in Richland. Magnolia Petroleum Company went 200 feet below the producing horizon in Richland to complete J. Sartor 2 in Section 16-16-6e, as a dry hole at 2633 feet. The producing horizon in Richland is around 2440-2460 feet.

The gassers completed during the week are: Community Oil and Gas Company's Boise 1, Section 33-16-6e, Richland Parish, at 2448 feet, gauged 53,000,000 feet; Pipes and Mack's Wright 1, Section 11-18-4e, Ouachita Parish, at 2207 feet, 2,000,000 feet; Magnolia Petroleum Company's Morrison 2, Section 2-19-4e, Ouachita Parish, at 2210 feet, 1,000,000 feet; Hatcher and Evens' Hatcher 8, Section 21-19-4e, Ouachita Parish, at 2210 feet, 4,000,000 feet; Southern Carbon Company's Tensas Delta 8 in Section 2-20-4e, Ouachita Parish, at 2182 feet, 14,000,000 feet, and Fee 51 in Section 15-20-4e, at 2143 feet, 32,000,000 feet; and Magnolia Petroleum Company's H. H. Branton 3 in Section 6-22-9, Webster Parish, Shongaloo field, at 2688 feet, 4,000,000.

New drilling showed a gain during last week, 14 new locations having been announced as compared to seven the preceding week. Only two of the last week's permits are for Arkansas. Gulf Refining Company made location for Rosa L. Cook 1, SE NE Section 1-18-15, Union County, a semi-wildcat, and Skelly Oil Company is rigging up for Kelly 2, NE SE Section 9-17-14, Union County, Champagnolle district.

Four of the new locations in Louisiana are for the Richland gas field on the northeastern edge of production. They are Millsaps 1 and 2 in Section 17-17-6e and Millsaps 3 and 4 in Section 16-17-16e. Ouachita obtained one new location, Pioneer Gas Company's Tom Jones 2 in Section 14-18-4e. Morehouse Parish will get another test in Interstate Natural Gas Company's Flemming 1, Section 15-20-4e. Both of the latter tests are in the Monroe gas area.

Two new locations for the old Urania field in LaSalle Parish were made. They are Randall and associates' Urania 3, Section 1-10-1e, which is already coring at 300 feet, and Kinney and associates' Kinney 1 in Section 7-10-2e.

Two rank wildcats in the Logansport district of DeSoto Parish will be drilled by the DeSoto Syndicate, locations having been announced for Holmes 1 in Section 20-13-16, where derrick is up, and for Williams 1 in Section 29-13-16.

### Gay Announces New Test

R. L. Gay, Trustee, apparently undismayed by the recent behavior of his two tests near his wildcat producer, Bowman-Hicks 2 in Section 14-7-14, Sabine Parish, announced a third location, Long-Bell Lumber Company 1 in Section 26-8-14, where derrick is already up. During the week Gay's Bowman-Hicks 2 (new series) in Section 14-7-14, tested dry at 2137 feet and he is drilling in chalk at 2188 feet. His Sabine Lumber Company 1 in Section 13-7-14, for the second time tests dry at 2492 feet, and is drilling at 2605 feet.

The southwest edge of the old Sarepta gas field where there is some drilling following several oil producers' completion, received another location, P. Hudson's Slack 1 in NW NE Section 1-22-11, Webster Parish.

Nothing of importance developed from any of Claiborne Parish's three wildcat tests. El Dorado Chief Oil Company's Baker 1 in Section 26-20-7 topped the Blossom sand at 2675 feet and is drilling 10 feet lower. Dixie Oil Company's Gilbert 1 in Section 27-21-5w, is reaming at 5014 feet and Smitherman and McDonald are coring a soft formation at 4727 feet in Miller 1 in Section 17-23-8.

D. C. R. Oil Company is reaming at 1929 feet in Hunter Estate 1 a wildcat in Section 17-19-14, Caddo Parish, after testing dry at that level. W. P. Wallace has shut down in State 1 in Section 16-16-10, Bienville Parish. Luke Case, Trustee, after being shut down for some time to repair rig, at 1810 feet, has resumed drilling and is down to 1955 in Boatright 1 in Section 3-10-13, DeSoto Parish.

Woodley and Collins have spudded in Harp 1 in Section 22-22-7e, Morehouse Parish, and are drilling at 1050 feet after setting 12-inch casing at 140 feet. G. E. Carmatte has resumed operations in Tugwell 2 in Section 21-22-1e, Union Parish, after being shut down at 1700 feet. He is drilling at 1765 feet.

Lion Oil Refining Company's Union Sawmill 5 in Section 7-17-13, Champagnolle, a deep test, has a fishing job at 4530 feet, where efforts are being made to bring 13 joints of drill stem from the hole. Calgo Oil Company tested dry in a drill stem test from 4359 to 4363 feet in Primm 1, Section 9-18-17, Union County, Arkansas, and is coring the hole at 4385 feet. The Texas Company is drilling in rock at 3118 feet in Keiffer 1 in Section 11-18-4, Ashley County.

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## Rincon Deep Test Now at 6675 Feet

Ventura, Calif.—General Petroleum Corporation has reached 6675 feet in Hobson A-3, the third deep test to be drilled in the Rincon field, but has met with even less success than Richfield Oil Company in two former tests. Hobson A-3 was deepened on the theory that the original deep test may have not been favorably located. The formation is running to shale and streaks of gray sand.

Richfield Oil Company has passed 7140 feet in Hobson Fee 1, with nothing more than sandy shale in evidence. This well was deepened after the company's Hobson 1 failed to produce on a test at 6532 feet. Both of these wells found streaks of oil sand, but intervening layers of water sand prevented a successful test.

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Los Angeles.—Removal of the restriction on drilling certain tide lands is expected to result in the drilling of several wells along the ocean near the Rincon field. Several years ago a law was passed which would permit drilling tide lands at this point, but later state officials decided that such an action might be unconstitutional. Permits that had been issued were held up, pending another decision. Peremptory writs of mandate have been issued by the supreme court, granting permits to drill tide lands near the Rincon field.

With the completion recently of a new and modern building at 24-30 North Guthrie street in Tulsa, the Ward Chemical Corporation has enlarged its facilities so as to better serve the oil industry with chemical products. The company's products include water softeners, cleaning compounds and other preparations for treating gasoline, crude oil and boiler feed water. William V. Ward is president and organizer of the company.

## Four Lawndale Tests Are Below Production Level

Los Angeles—Lawndale is rapidly coming to a showdown and developments during the week were disappointing from almost every angle. Four wells are now drilling near the 6000-foot level, or considerably deeper than the main producing sand was expected, but nothing which would warrant a test has been encountered. The deepest wells are Standard Oil Company's Vance 1, now coring below 5975 feet; Pacific Western Oil Company's Howland, drilling sandy shale at 5775 feet; Superior Oil Company's Ritter 1, coring at 5800 feet, and Smith Petroleum Company's Durand, reported at 5800 feet. The geological theory concerning the structure has pictured a series of fractured formations, and it now looks as if such may be the case. All information concerning the discovery well was withheld, leaving the new operators to find what they will. Drilling wells have increased to 50, despite the fact that only two wells have been completed in the field. New wells are being started every day, with several new locations each week.

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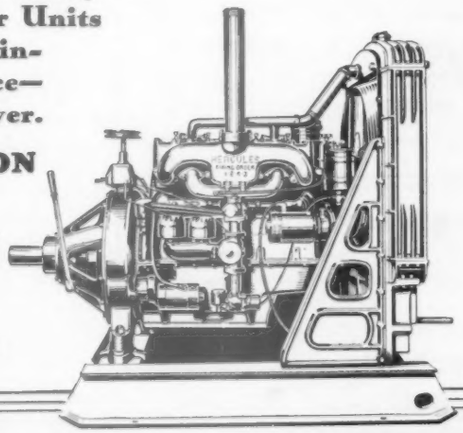

# HERCULES ENGINES

*Say you saw it in The OIL WEEKLY*

**CONFIDENTIAL SCOUT REPORTS**
on all CALIFORNIA FIELDS and WILDCATS

So. Calif. Weekly.....$10 per mo.
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HEYDRICK MAPPING COMPANY
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Formerly Assistant Examiner United States Patent Office
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## Start Wells in Vineland District, Colorado

Pueblo, Colo.—The Christy-McCormick-Franz Syndicate spudded in the first well in the Vineland district, Pueblo County, last week on Section 34-21-63; this is an offset to the discovery well. The Henry Dickason interests spudded in the second well of the week on Section 19-22-62, southeast of the discovery. The Christy-McCormick-Franz interests will drill three wells in the field, and are moving materials to NW Section 13-22-63 and NW Section 16-22-63. S. V. Windle has a derrick up on Section 11-22-63 and will drill his well with a Chrysler car for power. Security Oil Trust is moving in on Section 14-22-63, and the Bred-Shu Oil Company announced that its Randall 1 would be drilled on SW Section 1-22-63.

Litigation is holding back a test of the discovery well on NW Section 3-22-63. It is said that the oil is standing about 900 feet in the hole, having increased during the time it has been standing. The casing has as yet not been run into the 600 feet of open hole.

There is a great deal of leasing activity in the region, and a small boom is under way in all business in Pueblo. O. H. Shoup, formerly governor of Colorado, and his associates have announced that they will drill at least two wells, to be located on NE Section 16-22-63 and on SE Section 35-21-63.

## Agreement Opens Dutch Oil Lands to Americans

Washington, D. C.—American interests are to be permitted to participate in the development of oillands in the Dutch East Indies and the United States is to recognize the Netherlands as a recoprocating state under the mineral leasing act of 1920 and allow its nationals to acquire oil leases in this country, under the terms of the agreement negotiated between the two governments last year, the notes of which have just been made public by the State Department.

The controversy with respect to oil rights arose with the introduction in the Netherlands parliament in 1920 of a bill providing for the formation of a company to develop the Diambi concessions in Central Sumatra, which would give the Dutch a monopoly and effectively bar Americans from acquiring oil interests in the Netherlands East Indies, where they had not found it possible to secure any properties of any consequence.

Subsequent enactment of the Dutch measure led to an exchange of correspondence between the two governments in which the State Department pointed out that, under the mineral leasing act, if the Netherlands should persist in refusing to permit American citizens and corporations to obtain leases or concessions for oil development in Holland or its colonies the American government would not grant permits to Dutch citizens for oil leases in this country.

As a result, the Netherlands adopted legislation authorizing the signing of contracts with a company in which American capital is heavily interested for the exploitation of important oil lands in the Netherlands Indies, with the understanding that when the contracts were negotiated the United States would recognize the Netherlands as a reciprocating country under the leasing act.

"Her Majesty's government has no intention of abandoning the open door policy in so far as the granting of rights for the exploitation of oil fields in the Netherland Indies is concerned," it was declared in a note to the American Minister at The Hague from the Dutch Ministry of Foreign Affairs. "Consequently the opportunity will remain open for American interests to participate in the exploitation of the petroleum wealth of the Netherland Indies. It is, however, understood that this policy does not imply that in each specified instance of the granting of petroleum rights to other than American interests, the question of the granting of identical rights to American interests can be raised."

**Coastal Oil Finding Company**
Contracts taken for Torsion Balance Work
Esperson Bldg., Houston, Texas
Phone Preston 4726

**McCollum Exploration Company**
*Contracts taken for Seismograph Work*

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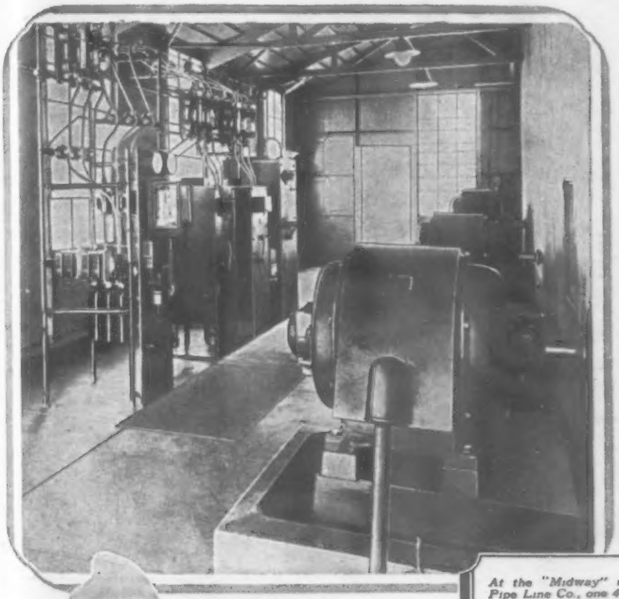
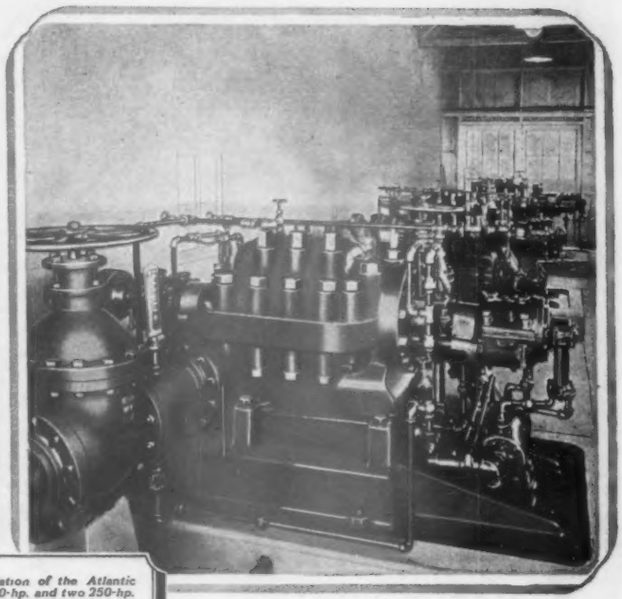
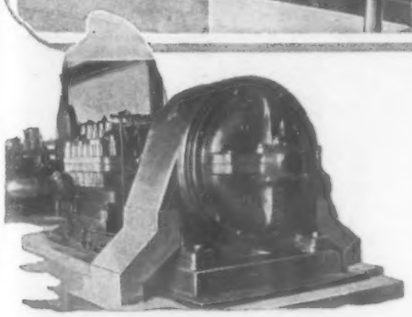




*At the "Midway" station of the Atlantic Pipe Line Co., one 400-hp. and two 250-hp. motors are direct-connected through a fire wall to centrifugal pumps*



*This 1000-hp. motor is used by the Standard Pipe Line Co. at Mandeville, Ark.*

# Electric Power

## *for your pipe-line pumps*

*Electric* power—clean, safe, flexible, dependable—is being used more and more on pipeline pumps.

These installations of electric power are speeding oil transportation and establishing lower over-all costs.

*Electric* power is being made available everywhere by progressive public utilities. The long arm of the transmission line is reaching into the remotest sections of the oil country.

*Electric* power, whether for booster or main station service, is the inevitable successor of other forms of power.

The advice of oil-industry specialists—men of long experience in applying electric power—is available through your nearest G-E office.

**General Electric supplies complete electric equipment to the oil industry. With warehouse facilities close to your operations, G.E. readily furnishes motors, controllers, transformers, arresters and other protective devices, capacitors for power-factor improvement, switching equipment, etc.**

**G-E oil field specialists and G-E service at: Dallas, Denver, Houston, Kansas City, Oklahoma City, Tulsa, Los Angeles, San Francisco.**

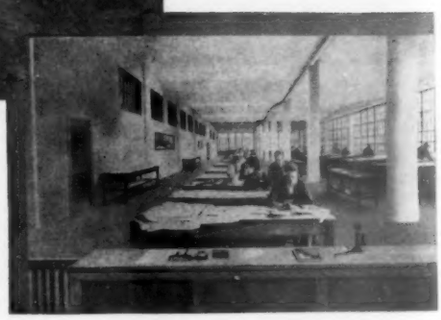
***Motorized Power***
*—fitted to every need*

200-216H

# GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY, SCHENECTADY, N. Y., SALES OFFICES IN PRINCIPAL CITIES

*Aeroplane view of the Waukesha Motor Company's plant at Waukesha, Wis. The two buildings in the foreground and the building paralleling the tracks are the important additions just completed.*

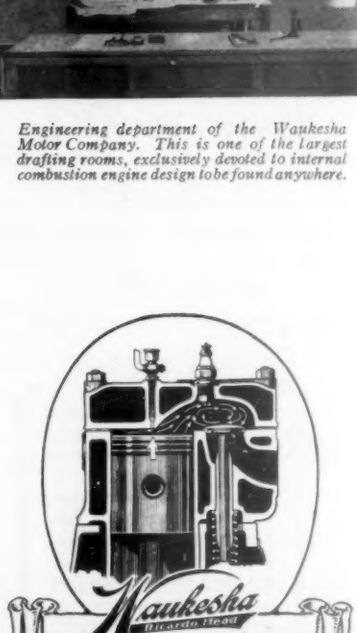


*Engineering department of the Waukesha Motor Company. This is one of the largest drafting rooms, exclusively devoted to internal combustion engine design to be found anywhere.*

# WAUKESHA'S NEW FACTORY
## ... what it means to you ...

**New plant extensions increase our floor area 100 per cent and give additional engineering and production facilities for both our new engines and those which we have been building for some years past. Proving laboratories for both research and production engines are now in operation.**

**Adequate service department facilities—greater stocks and prompter shipments are assured by this expansion which we offer as our contribution to your business and as evidence of our faith in your continued and increasing future success. Write for bulletin 710, "What's New With Waukesha?"**




920

*OIL INDUSTRY EQUIPMENT DIVISION*

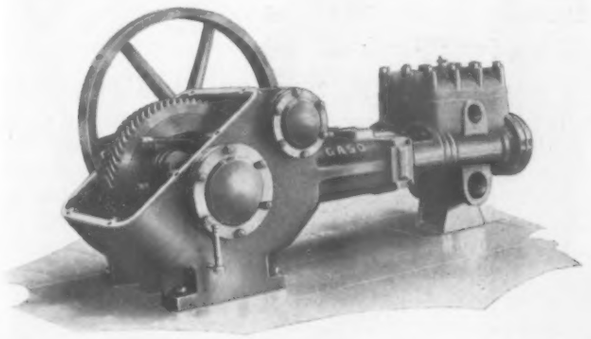
**WAUKESHA MOTOR COMPANY**

New York Tulsa **Waukesha, Wisconsin** Houston San Francisco

*Exclusive Builders of Heavy-Duty Internal Combustion Engines for Over Twenty Years*

*Say you saw it in The OIL WEEKLY*

# NEW EQUIPMENT, CATALOGS, BULLETINS, BOOKS



*Gaso Fig.* 1508 *Enclosed Power Pump with cover removed*

## All Timken Bearing Pump

**GASO PUMP & BURNER MANUFACTURING CO.**

The Gaso Pump & Burner Manufacturing Company, Tulsa, has recently introduced a new duplex piston enclosed power pump, which combines a number of features designed to insure smooth, easy running, with minimum wear. This is the Gaso Figure 1508 Pump, for pumping oil and water up to 800 pounds pressure.

The crankcase is enclosed, with all parts running in an oil bath. Both pinion and main bearings are Timken Tapered Roller Bearings. The gear is solid Herringbone construction, mounted in center on a steel crank shaft. Connection rods in this pump are of the "H" construction, steel, marine type, extremely heavy and correctly balanced. An important feature in maintenance economy is the bronze backed babbitt bushing in the crank end, easily removable for renewal in the field.

Gaso Figure 1508 Pump can be arranged for any type of drive: (1) pulley for belt drive; (2) direct connected to engine through flexible coupling; (3) motor through silent chain of reduction gears; (4) "V" rope drive. Fluid end of this pump can be furnished with either cast iron or bronze lined liners of removable type.

More information may be had by addressing the manufacturer.

## New Type Electrode Holder

**LINCOLN ELECTRIC COMPANY**

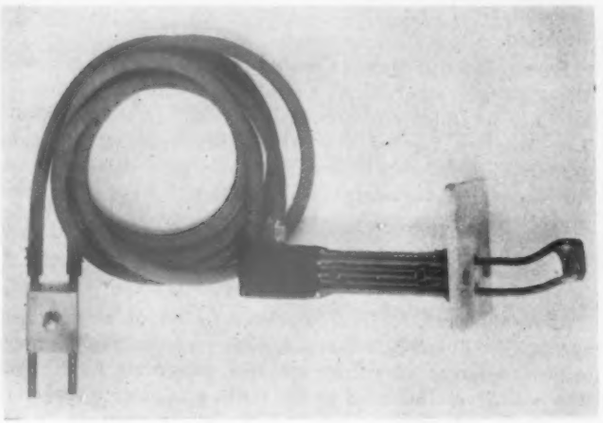
Announcement has recently been made by The Lincoln Electric Company, Cleveland, Ohio, of the perfection of an entirely new type water cooled carbon electrode holder for heavy duty manual welding by the carbon arc process. Designed primarily to insure greater comfort and less fatigue for the welder operator, it has been found after extensive tests in the manufacturer's plant that the new holder effects a marked economy in the use of the carbon electrodes.

It is possible to weld with the arc tip of the carbon electrode projecting less than three inches from the carbon holder, thereby reducing the vaporization of the carbon. It enables the use of smaller size carbons with higher current density which effects a saving in electrode costs.

Many innovations in design have made it possible to produce the new type holder at a weight of only 3¼ pounds in the welder operator's hand. In addition the holder is well balanced and easy to handle due to the extreme flexibility of the lead cable.

A feature which contributes to the light weight of the holder is the use of the hose which carries the water to also carry the cable to the holder. Each of the two water tubes contain a small light cable from the connector to the holder. The water flowing through the holder also acts as a cooling agent for the cables. By the use of this cooling agent the size cable to the holder is reduced to a fraction of the size necessary if it were not used.

The carbon holder consists of coiled copper tubing through which water constantly circulates, the carbon electrode being inserted through the coil. The carbon holders are manufactured in sizes for use with one-quarter-inch, five-sixteenths-inch, three-eighths-inch, and one-half-inch carbons. A hand shield of compressed magnesium protects the operator's hand from the arc rays. The water cooling system is incorporated also in the hand grip of the holder to keep it cool.



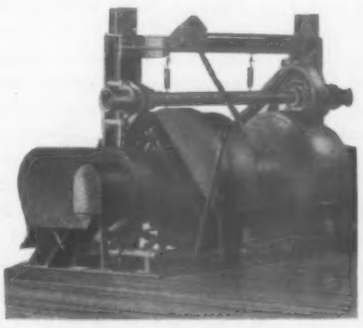
*Water Cooled Carbon Electrode Holder*

The new type water cooled carbon electrode holder and flexible water cooled lead off cable are being placed on the market by The Lincoln Electric Company, Cleveland, Ohio, manufacturers of "Stable-Arc" Welders, welding accessories, and polyphase induction motors.

## New Lucey Draw Works

**LUCEY MANUFACTURING CORPORATION**

Lucey Manufacturing Corporation, Chattanooga, Tennessee, has announced its horizontal type three-speed heavy duty roller bearing draw works. Many new features carried in the new model makes it a new departure from former types manufactured by this company.



*Lucey Horizontal Draw Works*

The line shaft is directly behind the drum shaft and in the same horizontal plane, giving a straight line load pull from the engine to and from the engine and line shaft. This permits use of sprockets with compensating tooth form.

Vibration is less,

relieving the strain on the engine, and the new type is easier to erect. Timken roller bearings have been used in the drum and line shafts to conserve power.

The cat-head shaft is five inches in diameter and is mounted in bronze lined bearing boxes in front of the jack posts, adding convenience for the drilling crew. When this shaft is not in use it is disconnected by throwing out a clutch on the line shaft.

Clutch shifters and brake rigging are all mounted on a single steel plate, which simplifies and reduces the time necessary in locating and rigging up all of these parts.

This draw works weighs 22,500 pounds net, and is adaptable to any kind of power drive. Material used is of the strongest, conforming to the heavy duty feature of the draw works.

More information may be had by addressing the company as above, or through any branch.

## BYRON JACKSON WAREHOUSES

Byron Jackson Pump Company has recently established warehouses with complete stocks in Long Beach, Lawndale, Santa Fe Springs, Bakersfield, Taft, Coalinga and Ventura, California. The Houston offices of the oil tools division are being removed to 617 Public National Bank Building.

Byron Jackson Pump Company has recently announced the appointment of R. M. Cook to take charge of the disc bit sales in Oklahoma City. He has been in the company's Los Angeles factory several weeks preparatory to his assumption of duties in the new position, and left recently for the Mid-Continent, accompanying Arthur E. Raine, Mid-Continent manager, oil tools division.

## R. A. SHILBAUER PROMOTED

R. A. Shilbauer, for several years assistant advertising manager of the Chain Belt Company, has recently been promoted to the position of advertising manager, succeeding A. R. Abelt, who will devote his time to his position as sales manager of the chain and transmission division of the company in the future.

Mr. Shilbauer joined the Chain Belt Company as a rate-setter in 1920. He served the company's Grey Iron Foundry and chain assembly plants, the West Milwaukee works, and in 1925 was placed in the advertising department. Chain Belt Company manufactures engineering and conveying equipment, chain, transmission, and operates a plant in Cleveland, Ohio, under the name of Stearns Conveyer Company, makers of belt conveyors. Chain Belt Company is a part of an affiliated group of companies consisting of the Sivyer Steel Costing Company, Federal Malleable Company and Interstate Drop Forge Company, all of Milwaukee, Wisconsin.

## HILL, HUBBELL & CO., OPENS CHICAGO BRANCH

Hill, Hubbell & Company, division of the General Paint Corporation, is opening an office in Chicago, located in Rooms 1639 and 1641 Bankers Building. This office will be in charge of Edgar S. Browning, vice president and general manager, Eastern division of Hill, Hubbell Company, and general manager, Eastern division of the General Paint Corporation. Opening of this Chicago Branch follows an increase in business of the company in this territory, including connection with pipe coating and wrapping plants located in the following mills: Youngstown Sheet & Tube Company, Indiana Harbor, Indiana; National Tube Company, Lorain, Ohio; Youngstown Sheet & Tube Company, Youngstown, Ohio; A. O. Smith Corporation, Milwaukee, Wisconsin; Central Tube Company, Economy, Pennsylvania, and Spang, Chalfant Company, Ambridge, Pennsylvania.

## READING RESALE POLICY

P. N. Guthrie, vice president of the Reading Iron Company, delivered a talk February 14 before the Eastern Supply Association convention at the Hotel Astor, New York City. He announced the establishment of the company's re-sale policy, effective March 1. The ultimate aim of this policy, according to Mr. Guthrie, is to possibly eliminate the destructive tendency towards ruinous prices.

## READING OPENS NEW ORLEANS BRANCH

Reading Iron Company, Reading, Pennsylvania, manufacturers, has recently announced the establishment of a district sales office at New Orleans. This office will be under the direction of George E. Tyson and will be located at 1216 Hibernia Bank Building. Mr. Tyson has been transferred to New Orleans from the Reading district.

## CORRECTION

Fred E. Cooper of Tulsa, has announced a reduction in price to $2995 on the new model Rumely OilPull Winch Tractor. The reduction in price became effective February 20.

The announcement of Mr. Cooper's in this issue shows the new model tractor on which the reduction is effective. Through error an old model tractor was shown in his announcement in February 22 issue.

## TIMKEN CATALOG

"Wherever Wheels and Shafts Turn" is the title of a 150-page catalog recently put out by the Timken Roller Bearing Company, Canton, Ohio. Neatly bound in permanent book form, this catalog describes in detail the variety of uses of its bearings, using photographs to illustrate the Timken bearing equipped machinery and drawings to illustrate position of the bearings in this equipment. Included in the numerous lines shown to be equipped with Timken bearings are several pieces of drilling equipment, such as the rotary drilling table, centrifugal pump, gear reduction unit, Link-Belt, compressors, electric motors, gasoline engines, and elevators.

---

A small booklet describing in detail the new Wilgus gas fuel regulators has just been issued by Natural Gas Equipment Company, Petroleum Securities Building, Los Angeles, and copies will be mailed to those interested. The booklet is profusely illustrated and contains considerable technical information.

---

The Sivyer Steel Casting Company, Milwaukee, Wisconsin, has a new book titled "Dependability in Steel Castings," which was issued on the twentieth anniversary of the pouring of the first heat at the company's original foundry, February 23, 1909. This book, taking up 66 pages of detailed description of Sivyer processes with illustrations, depicts the company's history through 20 years of operation. Persons interested in a copy of the "Dependability in Steel Castings" should write the company at the above address.

---

Offices have been opened at Tulsa by the National Tube Company of Pittsburgh. The Tulsa organization consists of W. J. McKee, field engineer, and F. R. Braman, field representative. Mr. Braman has been in the Mid-Continent area for several years for the company. Offices are located at 726 Exchange National Bank Building and the territory to be covered will include virtually all the active areas in the Mid-Continent region.

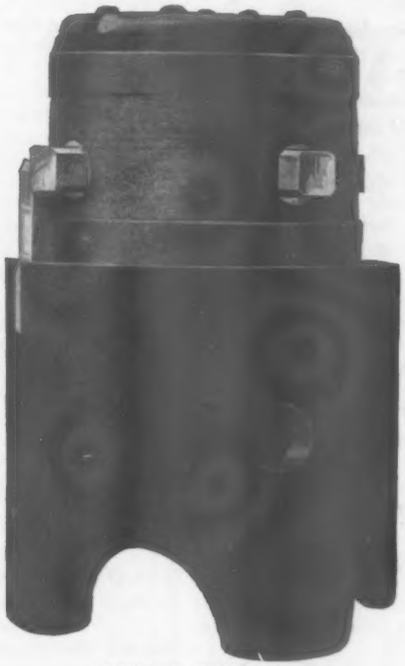
---

R. E. Ratcliff of Dallas, formerly with the Republic Rubber Company, is now connected with the Wickwire Spencer Sales Corporation, covering the Dallas, Fort Worth, Houston and Shreveport territory.

# *for* REGULAR JOBS

## *use the LARKIN*

## Regular Bottom



REGULAR BOTTOM

*In the Larkin Regular Bottom, the legs are short—allowing the pump to rest as near the bottom of the hole as possible and still obtain the necessary suction to remove the greatest amount of sand and sediment quickly.*

Every drilling day, sand and sediment must be cleaned from the hole. Samples must be taken for test purposes.

Under ordinary sand conditions, the quickest, surest, safest way to do the job is with The LARKIN Improved Sand Pump—equipped with the Regular Bottom.

Like the LARKIN Pump, the LARKIN Regular and Bit Bottoms are the result of many years experience in the manufacture of sand pumping equipment. Drillers everywhere know that LARKIN equipment will do the job—and do it right.

The LARKIN is built to clean out more wells, for more years, than any sand pump made.

FOR TOUGH JOBS

BIT BOTTOM

*This bottom is used for drilling and breaking the sand loose. Its chisel-shaped design is unique, prevents sticking, and allows successful operation in tightly packed sands.*

SOLD BY LEADING
SUPPLY STORES

*Send for circular and price list.*

*Made only by*

# LARKIN & CO.

AT BUTLER, PA.

*Makers of the LARKIN Line of Supplies*

# *The* LARKIN *Improved* SAND PUMP

SWEETWATER
260 acre Airport

**FOR a distributing Center Sweetwater's Facilities are unsurpassed**

With a 260 acre Airport—6 railway outlets and with 6 all-weather State Highways into the most remote districts, the wholesaler, jobber and manufacturer are assured efficient and dependable freight and passenger service into every section of the great West Texas oil, agricultural and livestock territories — a regular service of the industries located in this city.

SWEETWATER
DISTRIBUTING
CENTER OF
WEST
TEXAS

**SWEETWATER**
BOARD OF
CITY DEVELOPMENT

# Squeaks from the Bull Wheel

*A group of traveling men were swapping lies about their radios in a Smith Center drug store. An old man had been listening silently.*

*"Got a radio, old man?" asked one of the drummers.*

*"Yeah," replied the old fellow. "I got a little two-tube affair. It's a pretty good one, though."*

*"Can you tune out these little stations with it?"*

*"Well, I was listening to a quartet the other night, an' I didn't like the tenor, so I just tuned him out and listened to the three of 'em."*

A minister, in addressing his flock, began: "As I gaze about, I see before me a great many bright and shining faces." Just then eighty-seven powder puffs came out.

---

Three children were discussing the incomes of their fathers. One said: "My father writes a song in an evening and sells it for $25."

The next countered: "My father writes a story in an evening and takes it downtown the next morning and sells it for $50."

"That's nothing," declared the third. "My father gets in a pulpit on Sunday and talks for half an hour, and it takes twelve men to carry the money up to him."

---

"That's a pretty bad cold you have, old man. What are you doing for it?"

"Today I'm doing what Jones told me to do. It's Simpson's day tomorrow, and the next is Brown's. If I'm not better by Sunday, and I'm still alive, I shall try your remedy. Just write it down on this card, will you?"

---

Smith—Are you getting a new car this year?

Jones—Yes. That is, as soon as I've paid for the one that I had before the one I've got now.—Life.

---

A needy negro was borrowing $10 for one week, and on counting what was handed to him by the loan man he found he had received only $9. The lender explained that $1 interest had been deducted in advance.

Blinking his eyes in amazement, he scratched his head and mumbled, "I'se sho' glad Ah didn't need dis money fo' ten weeks."

---

"Will you please drive off the track?" asked the motorman.

The truck driver promptly pulled to one side.

"Thank you, ever so much," added the motorman with a smile.

"You're very welcome," responded the truck driver, "but you must pardon my seeming carelessness; I had no idea your car was so near."

---

When the young woman who had entered college to get a degree, announced her engagement to her professor in the middle of her second year, her friend said:

"But, Edith, I thought you came up here to get your Ph. D."

"So I did," returned Edith; "but I had no idea I'd get him so soon."

---

"Are you engaged to him?"

"Yes, but I have requested time to verify reports on his title and fortune."

"That's not an engagement, that's an option."

---

Here lie the bones of Mary Jane;
Death had for her no terrors.
Born a virgin, she died the same—
No runs; no hits; no errors.

---

"Why do you wear rubber gloves when cutting hair?" asked the customer.

"For the purpose of keeping our celebrated hair restorer from causing hair to grow on my hands," replied the barber.

He sold a bottle.

---

The victim of an accident glanced thoughtfully at the caller's card.

"I guess you're what they call an ambulance chaser, aren't you?" demanded the injured one.

"That's rather a harsh name, old man," replied the lawyer blandly. "Why not call me a settlement worker?"

---

But have you earnestly considered whether you are fitted for the duties of wifehood?

Oh, yes, George says he'd rather have me mix his cocktails than anybody else.

---

I've lost my new car.
Why don't you report it to the sheriff?
He's the one who took it.

---

The little boy was sent to the drug store to get some liniment and some cement.

"Do you want the orders tied in separate parcels?" asked the druggist.

"Yes, I guess so," said the boy. "The cement is for mother; she wants to mend the teapot. And the liniment is for father; mother broke the teapot over his head."

---

He found his front door, navigated the steps with precision, and discovered the keyhole by instinct.

Once in the dimly lighted hall there was an omnious silence followed by a tremendous crash of breaking glass.

"Why, what happened, George?" came a voice from above.

"It's all right, Nell; I'll teach those goldfish to snap at me."

# *Stelliting is*

## GOOD MANAGEMENT

ALL friction develops heat—heat sufficient to soften the best steels and reduce their resistance to abrasive wear.

The characteristic resistance of surfaces coated with Haynes Stellite to all abrasive wear and especially where high temperatures are involved saves money and stabilizes production all along the line. With three to five times longer life demonstrated, the Stelliting of wearing parts has been widely adopted as a matter of real economy.

Throughout industry Haynes Stellite is solving problems which come from a continually narrowing margin of profit. It reduces maintenance costs and idle equipment time. It saves repair bills—lowers inventories of replacement parts—releases capital for profitable employment—and does much toward keeping production on an even keel.

Your regular welders can do Stelliting. Haynes Stellite representatives will show them how.

*Ask for booklets describing the process.*

*Stelliting with*

HAYNES STELLITE COMPANY

*Unit of Union Carbide and Carbon Corporation*

UCC

DISTRICT SALES OFFICES

Chicago—1949 Peoples Gas Building
Cleveland—628 Keith Building
Detroit—4-240 General Motors Building
Houston—6119 Harrisburg Building
Los Angeles—1310 Santee Street
New York—30 East 42nd Street
San Francisco—114 Sansome Street
Tulsa—Exchange National Bank Building

*General Offices*—Kokomo, Indiana

***Haynes Stellite welding rod is also available from any of the 28 District Sales Offices of Oxweld Acetylene Company***

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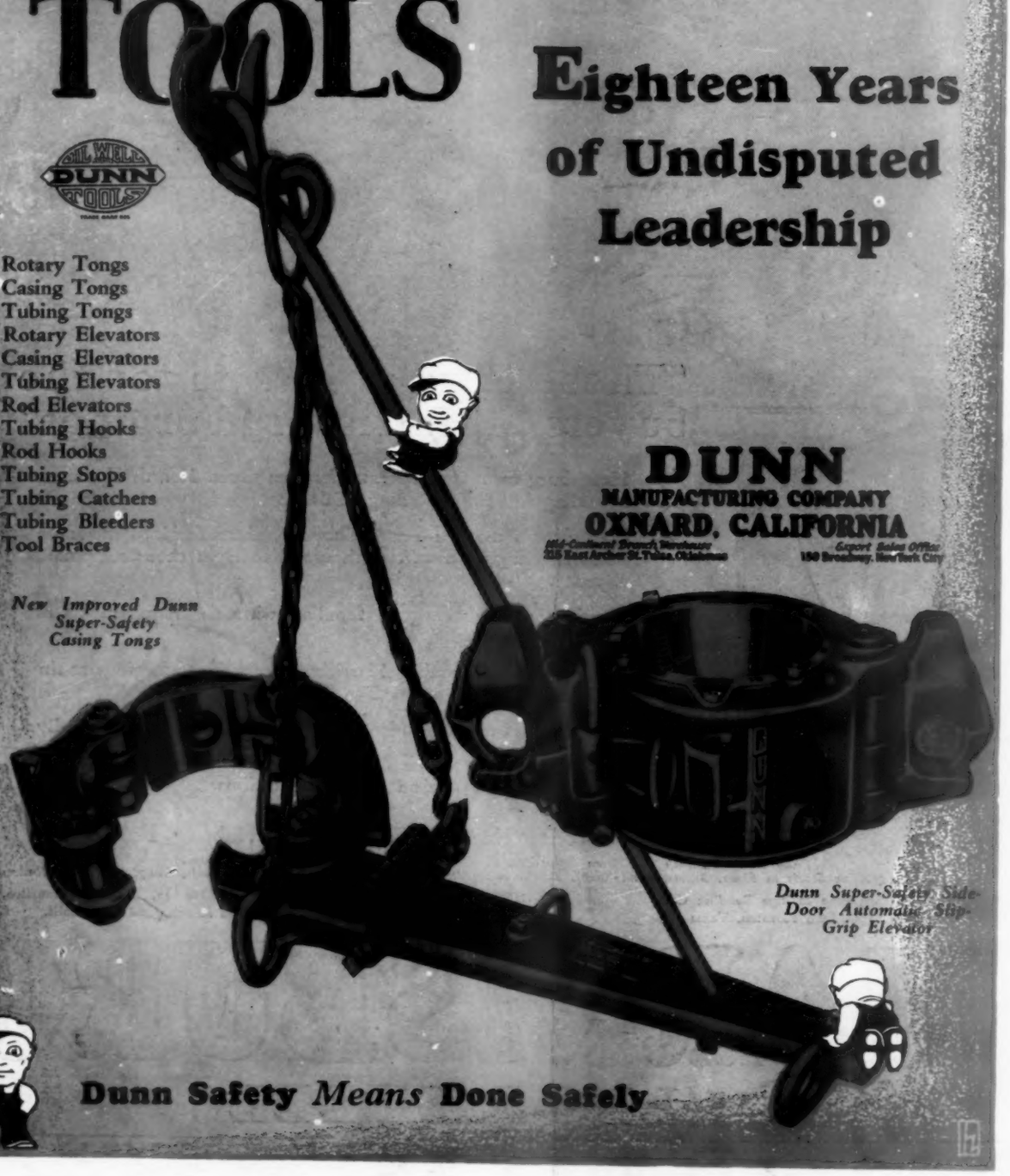


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